SOAP

and SANITARY CHEMICALS

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In this issue...

Cleaning compounds for use in bottle washing

* * *

Lindane—background of a versatile insecticide

* * *

Synthetic detergents in textile processing

* * *

Products used to clean Eastman Kodak's plant

Cover photo . . . George A. Wrisley, vice-president and general manager of Allen B. Wrisley Co., Chicago, currently serving as Chief, Glycerine, Soap and Synthetic Detergents Section, Chemical Division, Chemical, Rubber and Forest Products Bureau, National Production Authority, Department of Commerce. (See page 73.)

1-5

SEPTEMBER 1951

Creative Perfumery

sells your products



Creative Perfumery is the art and science of producing the correct, the perfect fragrance for any given product. More . . **Creative Perfumery** is the dynamics of Fragrance applied to modern merchandising for easier selling . . . for more satisfied customers. With original notes, subtle compositions and imaginative harmonies **D&O Creative Perfumery** can become a compelling and successful factor in your Sales picture. Consult D&O

D&O ESTABLISHED 1798

DODGE & OLCOTT, INC.

180 Varick Street • New York 14, N. Y.

ATLANTA • BOSTON • CHICAGO • CINCINNATI • DALLAS • LOS ANGELES • PHILADELPHIA • ST. LOUIS • SAN FRANCISCO

ESSENTIAL OILS • AROMATIC CHEMICALS • PERFUME BASES • VANILLA • FLAVOR BASES



and Replace Them with...

DUST-CONTROLLING

TROL-DUS

ANTISEPTIC FLOOR DRESSING

Kiss them all goodbye—the barrels of old-fashioned floor oils, the brushes, brooms and utensils stained by messy sweeping compounds! Here is dust-controlling Trol-Dus, the one popular product that replaces many—the product that leaves floors, both new and old, with an enhancing lustre.

NOW . . . IT'S WATER-MISCIBLE

That makes it as economical as a Scotchman! Mix our easy-to-use antiseptic floor dressing with an equal amount of water and watch the s-t-r-e-t-c-h!

And now, too, it has these added advantages . . . it is safe to use on any type floor and a cinch to wash out of mops!

CONTAINS A BACTERIOSTATIC AGENT

Trol-Dus controls dust-borne bacteria and virus particles, thereby helping to cut absenteeism in schools, offices and institutions. Introduce Trol-Dus to your customers now. Remember, it attacks dangerous germs right where they settle—on the floor.

USE TROL-DUS TO CONTROL DUST

Write today for complete information, a price list and free sample.

FULD BROTHERS, INCORPORATED

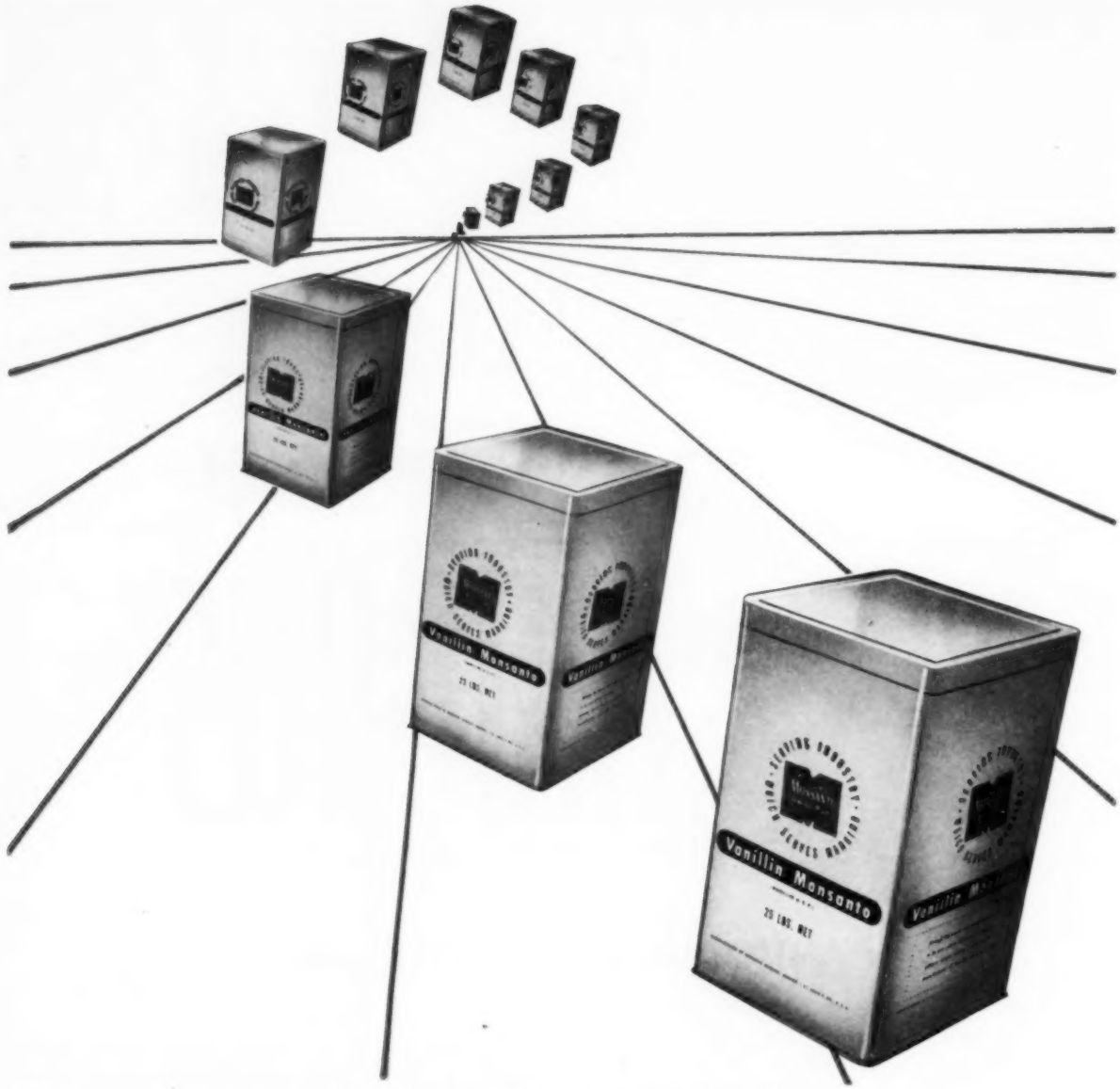
MANUFACTURING CHEMISTS

Warehouses in Principal Cities

CONSISTENT QUALITY FOR OVER A QUARTER CENTURY

702-710 S. WOLFE ST., BALTIMORE 31, MD.

West Coast Plant: Los Angeles, Calif.



More Monsanto Vanillin coming!

Construction workers are busy today erecting a new Monsanto plant for the production of vanillin. The expanded output will be available to add flavor or aroma to your pharmaceuticals or soaps early next year. The new vanillin production also will release facilities for the manufacture of more Ethavan. Thus, the project will relieve shortages of both Monsanto Vanillin and Monsanto Ethavan.

The additional production will maintain the high standard of purity that has made Monsanto Vanillin preferred by drug and cosmetic manufacturers for nearly 35 years. Monsanto Vanillin, having true flavor and aroma, always is uniform . . . always dependable in your formulations.

For product information on Monsanto Vanillin or other Monsanto flavor and aroma chemicals, contact the nearest Monsanto Sales Office or write MONSANTO CHEMICAL COMPANY, Organic Chemicals Division, 1700 South Second Street, St. Louis 4, Missouri.

MONSANTO FLAVOR and AROMA CHEMICALS

Coumarin Monsanto — Often used to "fix" delicate flavors of Ethavan and vanillin.

Ethavan — Monsanto's ethyl vanillin produces a distinctive vanilla-like flavor and aroma.

Methyl Salicylate — Synthetic oil of wintergreen.

Vanillin Monsanto — A delightful vanilla-like flavor and aroma.

DISTRICT SALES OFFICES: Birmingham, Boston, Charlotte, Chicago, Cincinnati, Cleveland, Detroit, Houston, Los Angeles, New York, Philadelphia, Portland, Ore., San Francisco, Seattle. In Canada, Monsanto (Canada) Ltd., Montreal.

Ethavan: Reg. U. S. Pat. Off.

MONSANTO
CHEMICALS AND PLASTICS

SERVING INDUSTRY . . . WHICH SERVES MANKIND

SOAP and SANITARY CHEMICALS

Volume XXVII
Number 9
September 1951

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The manufacturer who uses Continental low-pressure cans today can get them equipped with Continental's exclusive built-in "finger-tip" valve (right). Or he can fit them with his own special valve (left).

CONTINENTAL IS ALWAYS CLOSE TO YOU

Continental Can has 65 plants in the United States, Canada and Cuba, 17 field research laboratories and 63 sales offices.

Pss-sst

Have you heard how Continental developed the popular low-pressure aerosol can-and-valve?

Originally all aerosol products were packed in heavy steel "bombs." These are pretty good—but they can't help being expensive. So Continental research people said:

"Why don't we find a way to put these efficient aerosols in an inexpensive, disposable can? Then more people could afford the convenience of self-spraying insecticides, deodorants, paints, waxes and other products."

Our scientists went to work. They soon discovered it wasn't necessary to use aerosol "propellants" that developed high pressures—around 70 lbs. per square inch. A pressure of 35 lbs. worked just as well for many sprays, and didn't require a heavy steel "bomb" structure for the package.

So Continental researchers developed a proper combination of materials to give a satisfactory *low-pressure* aerosol. Next they tackled the problem of the container itself. Because of their experience with other cans designed to hold pressure, they knew just what kind of can to build.

But the valve for a low-pressure aerosol presented a brand-new problem—and without the proper valve, the whole idea might have flopped. After several years of intensive research, the engineers came up with the answer—the built-in "finger-tip" valve.

Presto—the Continental pressure aerosol can was a practical reality, and in just a few months it appeared in stores all over the country, packed with dozens of convenient, useful products.



PAINTS



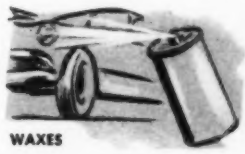
INSECTICIDES



WHIPPED TOPPINGS



LUBRICANTS



WAXES

Serving Industry . . . serving America

The products, the facilities and the people of Continental have been at the service of America since 1905. With other American industries, Continental is now placing an increasing portion of its effort into making our nation strong.

(This advertisement originally appeared in full-color in TIME, BUSINESS WEEK and FORTUNE.)

CONTINENTAL CAN COMPANY

CONTINENTAL CAN BUILDING

100 E. 42nd ST., NEW YORK 17, N. Y.



For Specialty Soaps . . .







SOLVAY
Trade-Mark Reg. U. S. Pat. Off.

CAUSTIC POTASH

LOW IN IRON and Other Impurities

Soda Ash
Chlorine
Caustic Soda
Caustic Potash
Potassium Carbonate
Calcium Chloride
Sodium Bicarbonate
Specialty Cleansers
Sodium Nitrite
Nytron
Ammonium Bicarbonate
Para-dichlorobenzene
Ortho-dichlorobenzene
Monochlorobenzene
Methanol
Ammonium Chloride
Formaldehyde

SOLVAY
Alkalies Chemicals
70 YEARS OF SERVICE
1881 1951

SOLVAY CAUSTIC POTASH

★ 49-50% Liquid in Tank Cars

★ 45% Liquid in Drums

★ 90% Solid and Flake

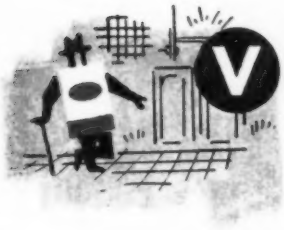
SOLVAY SALES DIVISION
Allied Chemical & Dye Corporation
40 Rector Street, New York 6, N. Y.

BRANCH SALES OFFICES:
Boston • Charlotte • Chicago • Cincinnati
Cleveland • Detroit • Houston • New Orleans
New York • Philadelphia • Pittsburgh • St. Louis
Syracuse

VIP

(Very Important Product)





IP IS a germicidal liquid detergent that cleans, sanitizes, disinfects and deodorizes in one operation, saving time and labor, bringing new life and beauty to any surface.



T WILL remove old accumulated film, making floors easier to clean—making them stay clean longer. It brings a NEW LOOK to old floors and keeps new floors looking their best.



ROVED, by actual test, to make terrazzo, tile, marble, composition, asphalt tile, wood or linoleum floors cleaner and more sanitary. VIP is also widely used in washrooms, locker rooms, and public toilets. It destroys odors at the source—does not cover up one odor with another.

Try this amazing new product today—a 3 minute demonstration will convince you. *Ask for Details.*

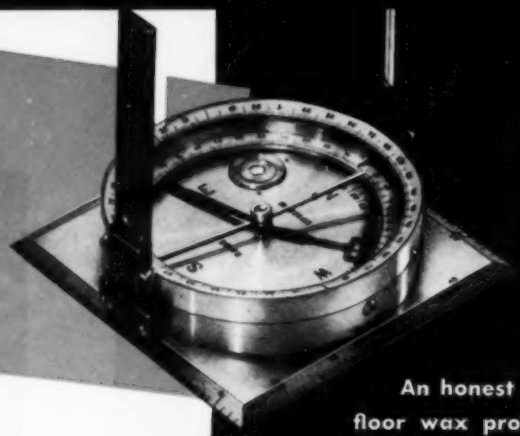
Hysan PRODUCTS CO.

932 West 38th Place • Chicago 9, Illinois

Manufacturers of Sanitary Chemicals Since 1926 • Selling Exclusively to Jobbers and Distributors

A GUIDE

TO WAX PRODUCTS PURCHASING FOR PRIVATE BRAND RESALE



An honest appraisal of floor wax products as we see it is offered to guide wax buyers who want the best quality money can buy...

SELF POLISHING WAXES

Candy's Supreme
Candy's DeLuxe—Bright Beauty—Candy's Supreme Special WR
Candy's Supreme Special WR-AS—Candy's No. 640
Bright Beauty Special WR-AS

Seven floor waxes that *are* all-around top quality for any given traffic condition. Each imparts the finest protection and beauty to floors for which they are best suited.

Bright Beauty FLOOR CLEANER

An outstanding material for removing even the heaviest wax film and dirt. . . . Brings neglected floors "back to normal." The *right* cleaning agent to insure the most efficient floor maintenance.

Bright Beauty CREAM FURNITURE POLISH

A cream furniture polish that spreads easily, polishes without excessive effort and imparts a deep impressive lustre. Too, it permits *repeated repolishing* with a dry cloth saving reapplication time and again; truly a very economical polish of very highest quality.

Bright Beauty PASTE WAX

A paste wax that is properly blended and refined from excellent quality solids and solvents that produce the best drying time and thorough evaporation. A wax that is easy to handle, having "creamy" consistency and stability throughout its stocking and usage period.

Bright Beauty LIQUID (spirit) PREPARED WAXES

Complete line of spirit dissolved waxes that meet a wide variety of demands for durability, color and types of usages. Each its own "Dry Cleaner," they keep a surface waxed with a superb protective coating necessary to many difficult surfaces such as certain floors (where adaptable) bars, wallpaper, etc.

Bright Beauty GLASS POLISH & CLEANER and SILVER POLISH

As a Glass Cleaner (pink color) it applies evenly with little effort, wipes off easily with negligible "powdering" and produces an undeniable "feel" of cleanness to glass that is actually true in fact. Different in color only as Silver polish, it imparts a highly desirable lustre to all silver *without* abrasion and can even correct the abuses of scratchy, "quick-polish" inferior products.

Bright Beauty DANCE FLOOR WAX

Basic advantages are freedom from "balling up," thus does not gather dirt and impregnate the floor with hard spots difficult to remove . . . also is free from dusty effects. Adds the protective quality to expensive ballroom floors that means more "floor-years" to users everywhere.

Bright Beauty Heavy Duty PASTE CLEANER

Really *cleans* and *scours* more effectively and quicker than most scouring powders. Depending on application, it can clean to perfection even painted walls to provide a suitable repainting surface. 100% active, free from excessive abrasive quality, it frees almost every surface from all forms of foreign matter to perfection.

1. BEAUTY AND DURABILITY

should be considered together. Initial appearance is important, but for a waxed surface to remain beautiful it must be durable. Durability depends not only on resistance to the abrasion of traffic, but even more so on resistance to the collection of dirt and to discoloring traffic marks. Durability is really measured by how long the waxed surface maintains a nice appearance before the necessity of complete removal and re-waxing.

2. ANTI SLIP

qualities are necessary in a good wax as a matter of safety underfoot. This important quality does not necessarily require the sacrifice of beauty and protection which are the foremost original reasons for the use of a wax. Look for the proper balance—a wax film which is not excessively slippery yet which is not tacky and does not excessively collect dirt.

3. WATER RESISTANCE

is important, particularly when considering the possibility of wet traffic and the necessity for frequent damp mopping for the purpose of removing surface dirt. Overdoing this quality means greater difficulty in applying multiple coats of wax and may seriously increase the difficulty in removal when complete cleaning and re-waxing is necessary. Water resistance is important, but so is the quality of removability.

4. SOLID CONTENT

when expressed in percentage is not nearly as important as the *quality* of the solid content. When considering good quality, 12% of solids answers most needs for good planned maintenance programs. Two applications of 12% will give better results than one of 18%. However, the more concentrated material is useful for some programs of maintenance and particularly on "washed-out" floors, etc. Over-waxing should be avoided so that periodic complete removal will not be too difficult.

5. CARNAUBA WAX

is still the most important basic ingredient in our floor waxes. When refined and compounded with other important ingredients and "KNOW HOW," it aids materially in producing the most important features of a good floor wax... ALL AROUND QUALITY OF PERFORMANCE.

● ALL AVAILABLE FOR PRIVATE BRAND ONLY
We do not compete with our jobbers for consumer sales. We sell only to distributors, except for experimental accounts in Chicago essential to research.

Wax Specialists for over 60 years

Candy & Company, Inc.

2515 W. 35th ST., CHICAGO

FOR *Quality* THAT BUILDS CUSTOMER SATISFACTION AND REPEAT PROFITS...

Feature

PURO

Deodorants

MORE ECONOMICAL... LONGER LASTING

MADE OF 100% PURE PARADICHLOROBENZENE FUSED WITH FINE LONG LASTING PERFUME OILS ON HUGE MODERN POWER PRESSES. ATTRACTIVELY PACKAGED!



OUTSTANDING SELLER FOR EVERY PUBLIC USE

PURO 4 OZ. DEODORANT BLOCKS—

Most popular size and shape, for urinals and general use. Made to U. S. Navy specification No. 51-D-23 (Int.). Attractive cellophane wrap and special tube containers protect from evaporation. Available in pleasant Surf, Lilac and Rose colors. Economical — long lasting.



EXTRA PROFITS FROM THIS EXCLUSIVE SPECIALTY

PURO SANA-BOLE DEODORANT— ....

Banishes odors at their source. Patented "Snap-on" wire hanger holds cake securely in bowl and practically out of sight. Delicate flower-like fragrance. Ideal for home, hotel and public toilets —a much larger market than urinal blocks. A sensational repeater, 4 oz. cake.



NEW HEAVY DUTY HANGER BLOCKS

PURO JUMBO DEODORANT BLOCKS—

By popular demand, now available in 8, 12, 16 and 24 oz. cakes which are effective longer over a larger area. The three larger blocks come in convenient hanger containers. Cellophane wrap prevents evaporation before use. In clean smelling Surf, Lilac and Rose.

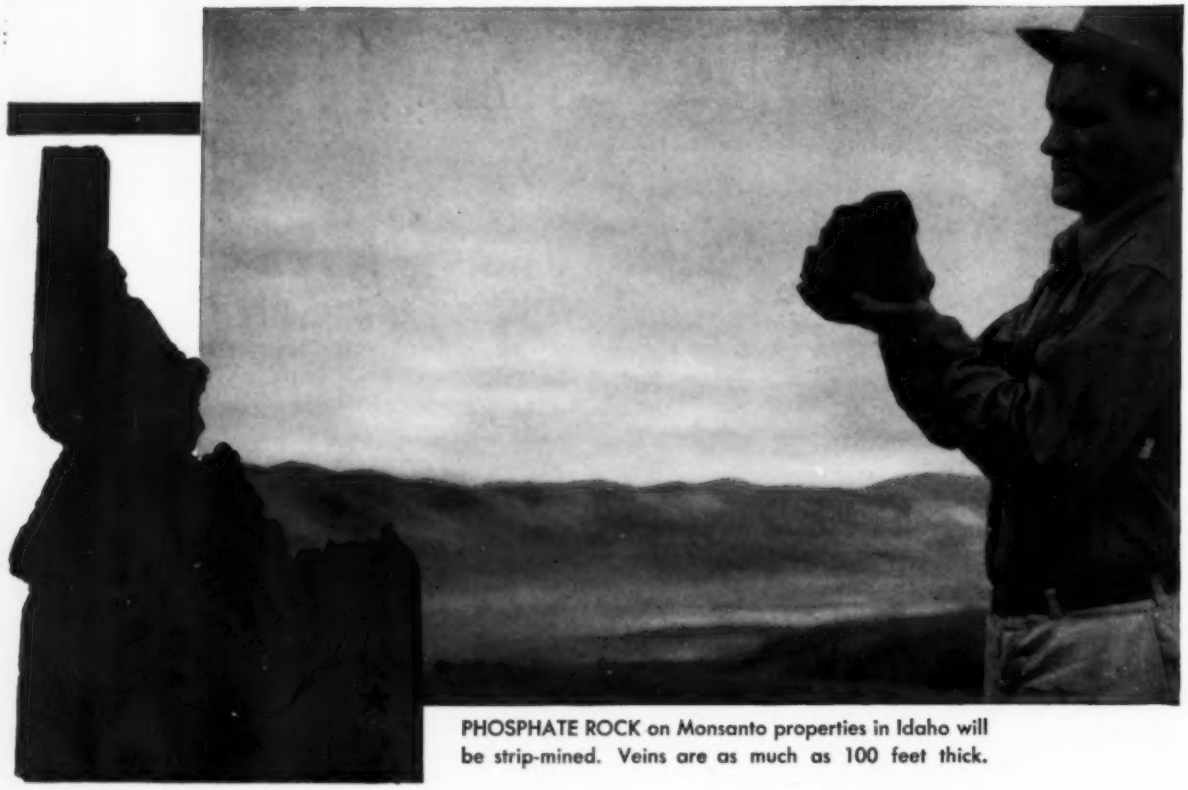
THE *Puro* COMPANY, Inc.

(Established 1929)

2801 LOCUST STREET ST. LOUIS 3, MO.

WRITE FOR SAMPLES AND JOBBER PRICES

MONSANTO Expands



PHOSPHATE ROCK on Monsanto properties in Idaho will be strip-mined. Veins are as much as 100 feet thick.

Monsanto, already the world's largest producer of elemental phosphorus, has added extensive holdings of phosphate rock near Soda Springs, Idaho. To extract elemental phosphorus of better than 99.9% purity from this rock, Monsanto is constructing a large electric furnace plant at Soda Springs, Idaho.

The output of this furnace plant, available next year, will substantially increase Monsanto's production of elemental phosphorus. It will mean more phosphoric acid and its derivatives for myriad industries using such products.

Elemental phosphorus from the Soda Springs furnace plant will travel by rail to Monsanto plants in Monsanto, Illinois; St. Louis, Missouri; Trenton, Michigan; and Anniston, Alabama; where it is converted into pure phosphoric acid and numerous phosphates serving hundreds of industries. Expansion of manufacturing facilities at these processing plants is under way.



Phosphorus Production

MORE PHOSPHORUS = MORE PHOSPHORIC ACID / MORE PHOSPHATES / MORE PHOSPHORUS DERIVATIVES



Phosphorus Pentoxide

Phosphorus burned in dry air produces phosphorus pentoxide from which these products are derived:

Methyl Phosphoric Acid
Ethyl Phosphoric Acid
Propyl Phosphoric Acid
Butyl Phosphoric Acid
Amyl Phosphoric Acid

Phosphorus Trichloride

Phosphorus plus chlorine produces phosphorus trichloride from which the following are derived:

Triethyl Phosphite
Phosphorus Oxychloride
Triethyl Phosphate
Tributyl Phosphate
Trioctyl Phosphate
Tricresyl Phosphate
Triphenyl Phosphate

PHOSPHORIC ACID

Phosphorus burned in moist atmosphere produces phosphoric acid used in various industries and from which sodium phosphates, calcium phosphates, ammonium phosphates, potassium phosphates and numerous other phosphates are derived.

Mono Sodium Phosphate
Uses:
Acid Cleaners
Water treatment
Textiles

Di Sodium Phosphate
Uses:
Cheese
Leather
Textiles
Detergents
Water treatment
Dye
Pigments

Tri Sodium Phosphate
Uses:
Water softening
Detergent
Metal cleaning
Water treatment
Textiles

Tetra Sodium Pyrophosphate
Uses:
Soap
Textiles
Detergents
Clay dispersant
Dyeing
Bleaching
Pitch control
Metal cleaning
Oil well drilling
Water treatment
Water softening
Glass

Sodium Acid Pyrophosphate
Uses:
Baking powder
Oil well drilling
Electroplating
Prepared flour

Mono Calcium Phosphate
Uses:
Baking powder
Self-rising flour
Self-rising corn meal
Prepared flour
Food enrichment

Di Calcium Phosphate
Uses:
Tooth paste
Tooth powder
Food enrichment
Pharmaceutical

Tri Calcium Phosphate
Uses:
Tooth paste
Tooth powder
Anticaking agent
Food enrichment
Pharmaceutical

Tetra Calcium Pyrophosphate
Uses:
Food enrichment
Pharmaceutical

Uses:
Soft drinks
Rustproofing
Metal cleaning
Gelatin
Jelly and preserves
Silage treatment
Fertilizer
Textiles
Sugar
Pharmaceutical
Water treatment

Mono Ammonium Phosphate
Uses:
Flameproofing
Yeast
Malt
Plant nutrient
Acid cleaners

Di Ammonium Phosphate
Uses:
Flameproofing
Yeast
Plant nutrient
Ammoniated dentifrices

Mono Potassium Phosphate
Uses:
Pharmaceutical
Plant nutrient

Di Potassium Phosphate
Uses:
Fermentation
Pharmaceutical
Nutrient solutions

Tri Potassium Phosphate
Uses:
Oil refining

Tetra Potassium Pyrophosphate
Uses:
Soap
Textiles
Water softener
Synthetic rubber manufacture

Iron Phosphates
Magnesium Phosphates
Aluminum Phosphates
Barium Phosphates
Beryllium Phosphates
Copper Phosphates
Lead Phosphates
Lithium Phosphates
Silver Phosphates
Zinc Phosphates

Sodium Polyphosphate
Uses:
Oil well drilling
Textiles
Water treatment
Detergents

Sodium Tripoly Phosphate
Uses:
Detergents
Pitch control
Metal cleaners
Water treatment
Clay dispersant

MONSANTO
CHEMICALS—PLASTICS

SERVING INDUSTRY . . . WHICH SERVES MANKIND

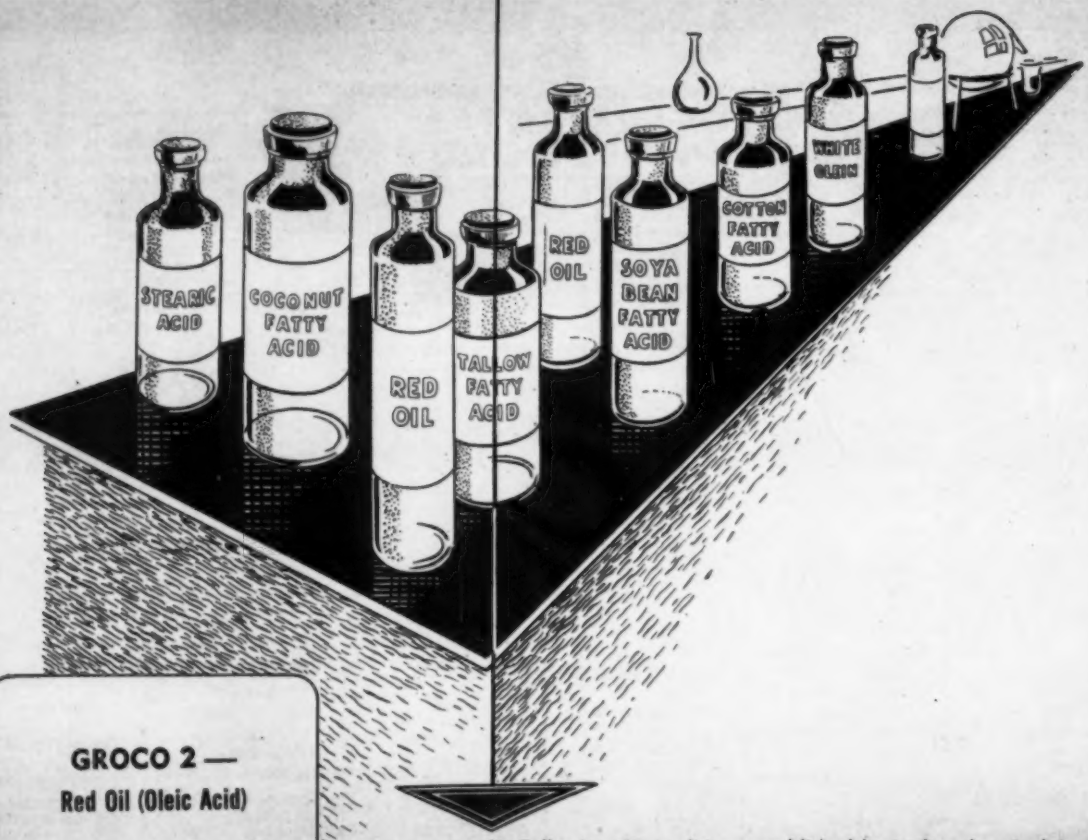
FOR INFORMATION on Monsanto's chemically pure phosphoric acid and phosphates, contact the nearest Monsanto Sales Office or write MONSANTO CHEMICAL COMPANY, Phosphate Division, 1700 South Second Street, St. Louis 4, Missouri.

☆ ☆ ☆

DISTRICT SALES OFFICES: Birmingham, Boston, Charlotte, Chicago, Cincinnati, Cleveland, Detroit, Los Angeles, New York, Philadelphia, Portland, Ore., San Francisco, Seattle. In Canada, Monsanto (Canada) Ltd., Montreal.

our SHIPMENTS

. . . . . perform like samples



GROCO 2 —
Red Oil (Oleic Acid)

Titre	2°—	3°C.
Cloud Point	36°—	38°F.
Color Lovibond 1" Red	4—	8
Color Lovibond 1" Yellow	20—	40
Unsaponifiable	2.0% max.	
Saponification Value	196—	199
Acid Value	195—	198
% F. F. A. as Oleic Acid	98—	99.5
Iodine Value (WIJS)	91—	93

● Following the traditions established by its founder, André Gross, in 1837, A. Gross & Company has constantly maintained high quality, purity and uniformity in all its Fatty Acids.

The smallest sample of A. Gross & Company Fatty Acids is truly indicative of our finished products. Constant research and exacting control in all phases of manufacturing, packaging and shipping assures satisfaction.

Advancement has been A. Gross & Company's answer to these problems and proven performance the result.

(Write for samples and our new booklet "Fatty Acids in Modern Industry".)

A. GROSS & Company

MANUFACTURERS SINCE 1837

295 Madison Avenue • New York 17, N.Y.
Factory: Newark, N. J.



sipon synthetic detergent

You can't buy better lauryl sulphates

There is a SIPON
to meet every detergent need

FOR SHAMPOOS

Sipon is the ideal detergent agent in liquid, cream or jelly shampoos. Sipon cleans the hair perfectly, even in lukewarm water either hard or soft. When compounded to our formulae, Sipon leaves the hair soft, glossy, easy to manage, with no residue of curds or dulling filmy particles.

Write for samples and descriptive literature.

ALCOLAC

American Alcolac Corp.
3440 Fairfield Road
Baltimore 26, Md.

WHY PAY HIGH PRICES
FOR NATURAL ESSENTIAL OILS?

Change to... FELTON

ARTIFICIAL ESSENTIAL OILS

Economical! Available! Authentic!

- ABIES SIBIRICA
- ALLSPICE
- BERGAMOT
- CASSIA
- CEDAR LEAF
- CINNAMON
- CITRONELLA
- CLOVES
- GERANIUM
- LAVENDER
- LEMON
- LEMONGRASS
- ORIGANUM
- PATCHOULY
- PIMENTA
- PINE NEEDLES
- ROSE BULGARIAN
- SAGE
- THYME
- VETIVERT
- YLANG YLANG



AROMATICS · PERFUME BASES · ESSENTIAL OILS

FELTON CHEMICAL COMPANY, INC.
599 Johnson Ave., Brooklyn 6, N. Y.

PLANTS: Brooklyn, N. Y. • Los Angeles, Cal. • Montreal, Que. • Paris, France
SALES OFFICES: Atlanta • Boston • Chicago • Dallas • Philadelphia
St. Louis • Toledo • Toronto

Stocks Carried in Principal Cities



for

NON-RUSTING LIQUID CLEANERS

use

NINOL 1281 *a non-ionic detergent with* ANTI-RUST *properties*

In these days of drum shortages it is more important than ever to avoid rusting during storage of liquid cleaners. Both *SYNSOAPS** and all-synthetic liquid cleaners formulated with NINOL 1281 can be packed in plain steel drums with complete freedom from rust — unlike most synthetics, NINOL 1281 solutions are non-rusting at *all* concentrations. And NINOL 1281 has many other advantages — among others, excellent detergency, no residual film, high viscosity at low solids.

OTHER NINOL FORMULATIONS AVAILABLE FOR RELATED USES

NINOL 2012A	A non-ionic detergent with powerful thickening action for solutions of other synthetics
NINOL 201	For thickening and clarifying liquid coconut soaps
NINOL 128	A base for low-priced viscuous non-ionic bar glass cleaners
NINOL 1283	Powerful anti-dusting agent for powdered cleaners

SEND THIS COUPON TODAY!

NINOL LABORATORIES, DEPT. S
1719 S. CLINTON ST., CHICAGO 16, ILL.

Gentlemen:
Please send me, at once, full information about the use of

NINOL
☐ 1281 ☐ 2012A ☐ 201
☐ 128 ☐ 1283

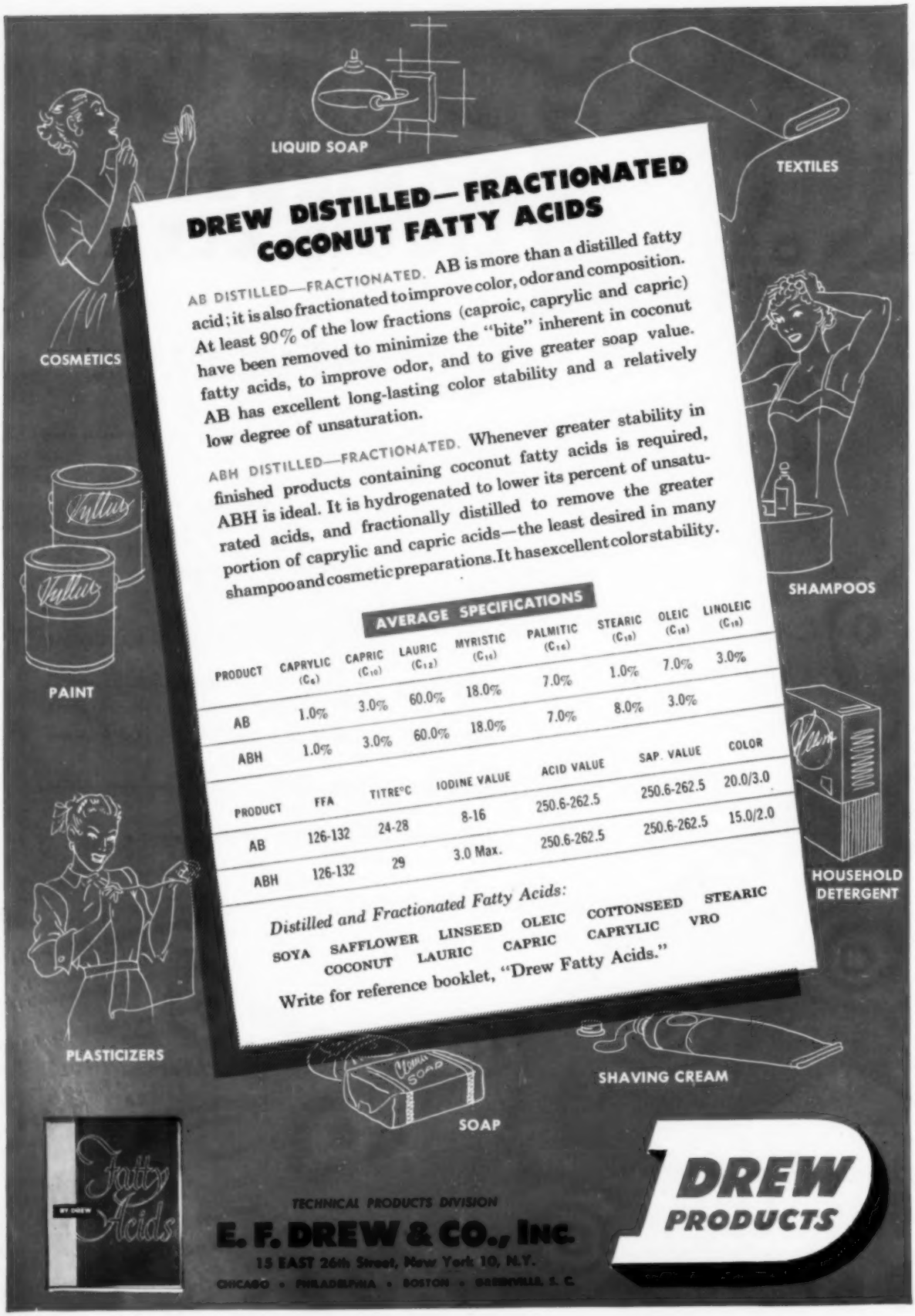
in formulating liquid cleaners, together with a working sample.

NAME _____
TITLE _____
COMPANY _____
STREET & No. _____
CITY _____
ZONE _____ STATE _____

NINOL
Detergents — Emulsifiers

NINOL LABORATORIES

1719 S. CLINTON · CHICAGO 16 · PHONE CHESAPEAKE 3-9625



DREW DISTILLED—FRACTIONATED COCONUT FATTY ACIDS

AB DISTILLED—FRACTIONATED. AB is more than a distilled fatty acid; it is also fractionated to improve color, odor and composition. At least 90% of the low fractions (caproic, caprylic and capric) have been removed to minimize the "bite" inherent in coconut fatty acids, to improve odor, and to give greater soap value. AB has excellent long-lasting color stability and a relatively low degree of unsaturation.

ABH DISTILLED—FRACTIONATED. Whenever greater stability in finished products containing coconut fatty acids is required, ABH is ideal. It is hydrogenated to lower its percent of unsaturated acids, and fractionally distilled to remove the greater portion of caprylic and capric acids—the least desired in many shampoo and cosmetic preparations. It has excellent color stability.

AVERAGE SPECIFICATIONS

PRODUCT	CAPRYLIC (C_8)	CAPRIC (C_{10})	LAURIC (C_{12})	MYRISTIC (C_{14})	PALMITIC (C_{16})	STEARIC (C_{18})	OLEIC (C_{18})	LINOLEIC (C_{18})
AB	1.0%	3.0%	60.0%	18.0%	7.0%	1.0%	7.0%	3.0%
ABH	1.0%	3.0%	60.0%	18.0%	7.0%	8.0%	3.0%	

PRODUCT	FFA	TITRE°C	IODINE VALUE	ACID VALUE	SAP. VALUE	COLOR
AB	126-132	24-28	8-16	250.6-262.5	250.6-262.5	20.0/3.0
ABH	126-132	29	3.0 Max.	250.6-262.5	250.6-262.5	15.0/2.0

Distilled and Fractionated Fatty Acids:

SOYA SAFFLOWER LINSEED OLEIC COTTONSEED STEARIC
COCONUT LAURIC CAPRIC CAPRYLIC VRO

Write for reference booklet, "Drew Fatty Acids."

TECHNICAL PRODUCTS DIVISION

E. F. DREW & CO., INC.

15 EAST 26th Street, New York 10, N.Y.

CHICAGO • PHILADELPHIA • BOSTON • GREENVILLE, S. C.

DREW PRODUCTS







greater whitening power with calcofluor whitening agents*

These new products of Calco research give superior whitening power to all types of commercial and household soaps and detergents.

Calcofluor whitening agents have these important characteristics:

1. Absorb ultraviolet light, without absorbing any appreciable amount of visual light.

2. Have good leveling characteristics (giving uniform distribution).

3. Types suitable for treating effectively any type of fabric.

4. Excellent fastness to hypochlorite.

A copy of Calco Technical Bulletin No. 811 "Optical Bleaches in Household Soaps and Detergents," containing much helpful data, will be mailed to you upon request.

*Trade-mark

AMERICAN Cyanamid COMPANY

CALCO CHEMICAL DIVISION
DYESTUFF DEPARTMENT
BOUND BROOK, NEW JERSEY

Calco®

For...

LIFE!

SPARKLE!

VERSATILITY!

Depend on Du Pont

ALPINE VIOLET*

TRADE MARK



Use "Alpine Violet" for its basic floral note . . . to exalt all florals and to improve their lasting qualities. "Alpine Violet" is ideally suited for use in soaps. Remember it when you want extra punch . . . new verve . . . in bouquets. "Alpine Violet" is stable, alkali-resistant and non-irritating to the skin. It's superior to Hydroxycitronellal . . . with an odor of true mountain cyclamen. "Alpine Violet" gives subtle emphasis to such florals as Lily of the Valley, Japanese Lily, Wild Reseda, Honeysuckle, Lime Blossom, and to all floral bouquets. Practically water-white liquid . . . unusually fragrant . . . "Alpine Violet" is offered in three concentrations, all created to intensify floral effects.

But whatever the product, whatever the fragrance, let Du Pont help you with your perfume problems. E. I. du Pont de Nemours & Co. (Inc.), Organic Chemicals Dept., Aromatics Section, Wilmington 98, Delaware. Branch offices: Atlanta, Boston, Charlotte, Chicago, New York, Philadelphia, Providence, San Francisco.

DU PONT

REG. U. S. PAT. OFF.

DU PONT AROMATICS

BETTER THINGS FOR BETTER LIVING . . .
THROUGH CHEMISTRY

**Du Pont's trade mark for its para isopropyl alpha methyl dihydro cinnamic aldehyde.*

Wyandotte Chemicals
REG. U. S. PAT. OFF.

DEVELOPMENT NEWS

New Series of Nonionic Surface Active Agents Shows Great Promise as Detergents

The Pluronics Include the First 100% Active Flake

The Pluronics, recently developed by Wyandotte, are a series of unique surface active agents of unusually high molecular weight. Field evaluations indicate their efficiency as detergents in products for home and commercial laundering, mechanical dishwashing, maintenance cleaning and many other cleaning applications. Four of the series — Pluronic L44, Pluronic L62, Pluronic L64 and Pluronic F68 — are available in pilot quantities. Pluronic F68 is in the form of free-flowing white flakes, 100% active. Properties of the four are charted here. For samples and further information, use the coupon.

Applications of the Pluronics

Home and Commercial Laundering

The Pluronics are excellent detergents in soft water. When properly built and promoted, they have outstanding cleaning properties in water of any hardness. Among the advantages shown in actual use are the rapid and thorough removal of soil and freedom from redeposition.

Mechanical Dishwashing

Pluronic L62 generates practically no foam under use conditions. A bulletin, describing the properties of Pluronics of interest to formulators of mechanical dishwashing compounds, will be sent on request.

Miscellaneous Applications

Other applications for which the properties of the Pluronics show real promise include synthetic detergent bars, raw wool scouring, detergent-sanitizer formulations, anionic-nonionic formulated detergents, location rug cleaning and dust-laying.

PROPERTIES OF THE PLURONICS

	Pluronic L44	Pluronic L62	Pluronic L64	Pluronic F68
Form	Oily liq.	Oily liq.	Oily liq.	Wh. flake
Active agent, %	100	100	100	100
Melting range, °F.				122-129
pH, 2.5% solution	6-8	6-8	6-8	6-8
Density, lbs. per gal.	8.8	8.6	8.9	
Density, lbs. per cu. ft.				36.8
Stability*				
Boiling 10% H_2SO_4, 15 min.	stable	stable	stable	stable
Boiling 10% NaOH, 15 min.	stable	stable	stable	stable
Metal ions	stable	stable	stable	stable
Moisture Pickup**				
7 days, % gain	1.7	3.0	3.4	3.6
30 days, % gain	4.7	4.6	7.3	5.6
Foam†				
0.05%, height in mm.	15	***	55	55
0.25%, height in mm.	50	***	90	110
1.00%, height in mm.	60	10	170	185

*Method from ASTM Bulletin No. 141, August, 1946.
**Measured at room temperature and 80% relative humidity.
***Value too low to be significant.
†Ross & Miles Pour Foam Method, Oil & Soap, May, 1941
All values presented are for solutions in distilled water.

Detergency of the Pluronics

At 0.1%, the Pluronics are much more efficient for removing carbon-base soil from cotton than 0.25% of a commercial alkylarylsulfonate, both measured at 140°F. in distilled water. Under these laboratory conditions, the improvement is 20% for Pluronic F68, 50% for L62, 170% for L44 and 180% for L64.

Whiteness Retention

For whiteness retention, measured under the above conditions, each of the Pluronics is about three times as effective as the alkylarylsulfonates in preventing redeposition.

Wyandotte
REG. U. S. PAT. OFF.

DEVELOPMENT DEPARTMENT, SS-9

WYANDOTTE CHEMICALS CORPORATION, Wyandotte, Michigan

Please send me ☐ PLURONICS booklet

☐ Sample PLURONIC L44 ☐ Sample PLURONIC L64
☐ Sample PLURONIC L62 ☐ Sample PLURONIC F68

additional information on the use of Pluronics in.....

Name _____

Company _____

Address _____

City _____ **State** _____



WHITER...WITH SOAPS



WHITER...WITH DETERGENTS

Built soaps and detergents do a better, faster job on white work when made with Hercules CMC-CT, unpurified cellulose gum. In tests, as little as 5% of the active detergent content increased soil removal and whiteness retention properties almost 45%, even after five washings.

CMC-CT also cuts materials costs. By reducing the active detergent needed, it allows generous use of cheaper neutral and alkaline builders. Let Hercules help you adapt CMC-CT to your needs. Send for technical information and testing sample.

MORE AND MORE CONSUMERS USE SOAP AND DETERGENTS MADE WITH HERCULES® CMC-CT

(UNPURIFIED CELLULOSE GUM)

HERCULES POWDER COMPANY Cellulose Products Dept., 961 Market St., Wilmington, Del.

CM51-9

Be sure you pick the right one . . .



If you manufacture dry soaps or soap flakes, Woburn Cottonseed Fatty Acid is the right one for you

Six advantages to using Fatty Acids

1. **Simplicity**
   The manufacture of soaps from Fatty Acids is not a difficult or complicated procedure.
2. **Better Color**
   Soaps of an excellent color are produced from Fatty Acids because foreign matter and dirt particles, present in the original raw oils, have been eliminated.
3. **Time Saving**
   The time of saponification is greatly reduced, since the glycerine is already removed, eliminating the need for the long "salting out" operation.
4. **No Shrinkage**
   The entire fat component goes into the soap with Distilled Fatty Acids, while, with oil, at least 5% is lost in glycerine.
5. **Economy**
   Lower labor and equipment costs result, as well as a saving in steam, because the same volume of soap is produced in less time (or a much larger volume in the same time).
6. **Better Control of the Finished Soap**
   Fatty Acids allow for complete saponification with an excess of only about 0.12% alkali. Woburn's rigid control system assures the soap maker of a more uniform product as the starting point for manufacture.

It's always to your advantage to use Woburn Fatty Acids

WOBURN Standard PRODUCTS

*Copyright, Woburn Chemical Corp. (N. J.)

Woburn Cottonseed Fatty Acid is a straight distilled fatty acid prepared from cotton type raw materials. You reduce processing and operating costs, because it saponifies to completion rapidly with no need for salting out.

COTTONSEED

Specifications:	Maximum	Minimum
Acid Number	202	194
Iodine Value (wijs)	110	85
Titre °C	39	34
Color (Gardner 1933)	6	—
Color (Livibond 5¼")	5R	—
Moisture & Volatile	0.5%	—

Typical Composition:	% Total Fatty Acids
Palmitic Acid	25
Stearic Acid	3
Oleic Acid	40
Linoleic Acid	35

MAIL THIS COUPON TODAY!

Woburn Chemical Corp. (N. J.)
1200 Harrison Avenue, Harrison, N. J.
Please send me, without charge, the Woburn Bulletin on Cottonseed Fatty Acid.

Name_____

Title_____

Firm Name_____

Address_____

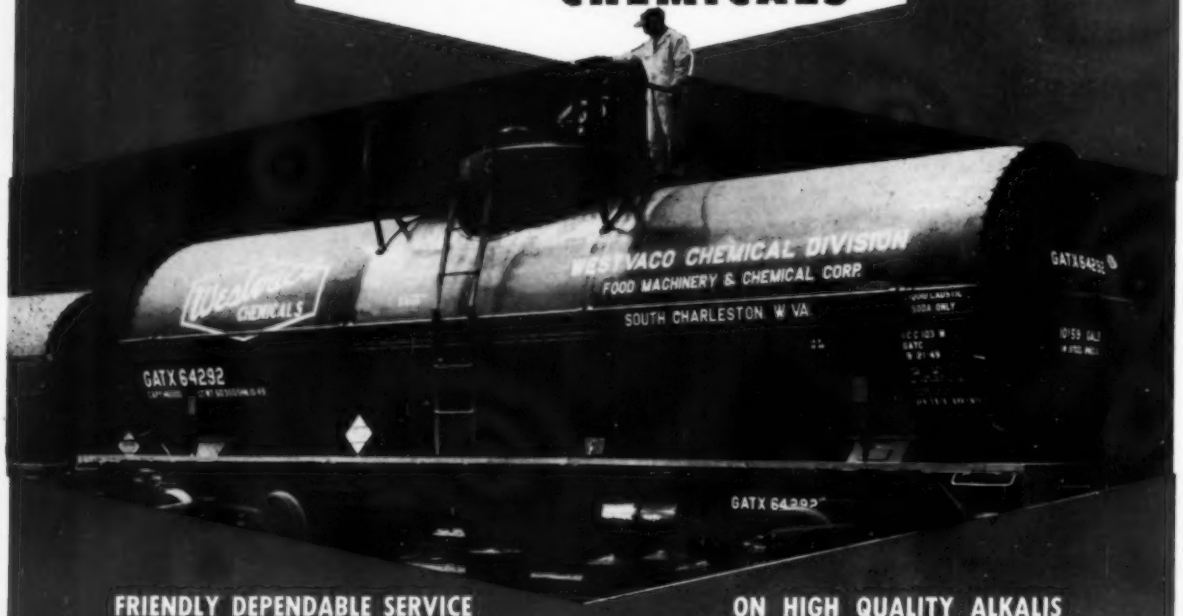
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WOBURN CHEMICAL CORP. (N. J.)

There's a Woburn fatty acid for every soap need!

AROUND THE CLOCK AROUND THE CALENDAR

Westvaco®
CHEMICALS



FRIENDLY DEPENDABLE SERVICE ON HIGH QUALITY ALKALIS

CAUSTIC SODA

Liquid 50%, Standard and Rayon Grades
Liquid 70-73%, Standard Grade
Flake and Solid, 76% Na_2O

CAUSTIC POTASH

Liquid 45%, Flake and Solid*

NATURAL SODA ASH

Light and Dense

We pioneered the production of electrolytic Caustic Soda away back in 1904 . . . now are a major producer with growing output of all three principal alkalis.

But today—as always—each customer's monthly requirements are still a matter of continuous concern in the "corner offices." When you deal with Westvaco, you do business with men who can give you a prompt "Yes or No" on any alkali question.

If we aren't furnishing a fair share of your requirements, we will welcome a chance to talk things over with you.

*Liquid 50% also available, shipped in tank cars only.

WESTVACO CHEMICAL DIVISION
FOOD MACHINERY AND CHEMICAL CORPORATION
GENERAL OFFICES • 405 LEXINGTON AVENUE, NEW YORK 17
CHICAGO, ILL. • CLEVELAND, OHIO • CINCINNATI, OHIO
ST. LOUIS, MO. • LOS ANGELES, CALIF. • NEWARK, CALIF.



In 1895 an incredible high-jump record of 6' 5⅞" was set by an athlete named Mike Sweeney — years ahead of his time and a standout in his day — whose record stood for 17 years and was thought to be unbeatable. His achievement may have been incredible *then* — but today, high-jumpers have been pushing closer to the seven-foot mark!

TOPPING OLD STANDARDS

Housewives who toiled over their washboards during Mike Sweeney's hey-day would be speechless to see the sparkling wash on 1951's clothesline!

Modern, labor-saving soaps and detergents continue to set unbelievable new standards in whiteness and brilliance in the laundry. Their success is due in great measure to the development of the optical bleach, which does a positive job of *adding* brightness while the soap or detergent completes its highly efficient cleansing action.

TINOPAL SPA

. . . is a superior optical bleach designed especially for use in soaps and detergent compositions. Tinopal* SPA imparts a very desirable bluish fluorescence to cottons and rayons during washing that effectively counteracts any dingy, yellowish appearance in white goods and brightens many colors. Repeated use results in a pure build-up without producing a pinkish cast or other undesirable shade.

Tinopal SPA exhausts completely from alkaline detergent solutions, is economical to use, and will withstand hypochlorites in the rinse.

*Reg. U.S. Patent Office

● *Geigy will forward samples and technical data on request to enable you to test the effectiveness of Tinopal SPA in combination with your own product.*

Geigy

Dyestuff Makers Since 1859

GEIGY COMPANY, *Inc.*

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IN GREAT BRITAIN: The Geigy Co., Ltd., National Buildings, Parsonage, Manchester



Background for better detergents

More than a billion pounds of household and industrial cleaning compounds have been produced with synthetic detergent materials made by Oronite.

This broad acceptance is proof of the high regard which leading compounders, processors and end-users hold for Oronite products.

Large-scale production facilities and experience provide Oronite the background for better detergents and make Oronite a most important source of supply.

ORONITE CHEMICAL COMPANY

THE NAME TO WATCH IN CHEMICALS

A partial list of other Oronite Chemicals

NOTICE
Some of the following are currently in short supply.

Detergent Alkane
Detergent Slurry
Detergent D-40
Detergent D-60
Wetting Agents
Lubricating Oil Additives
Cresylic Acids
Gas Odorants
Polybutenes
Sodium Sulfonates
Purified Sulfonate
Naphthenic Acids
Phthalic Anhydride
Ortho, Para Xylenes
Xylol
Aliphatic Acid
Hydroformer Catalyst

Be sure to attend the ACS Diamond Jubilee and the WORLD CHEMICAL CONCLAVE, September 3 to 15, 1951 New York City, New York

THESE EXTREMELY VERSATILE SYNTHETIC DETERGENTS FIND A WIDE VARIETY OF USES THROUGHOUT INDUSTRY

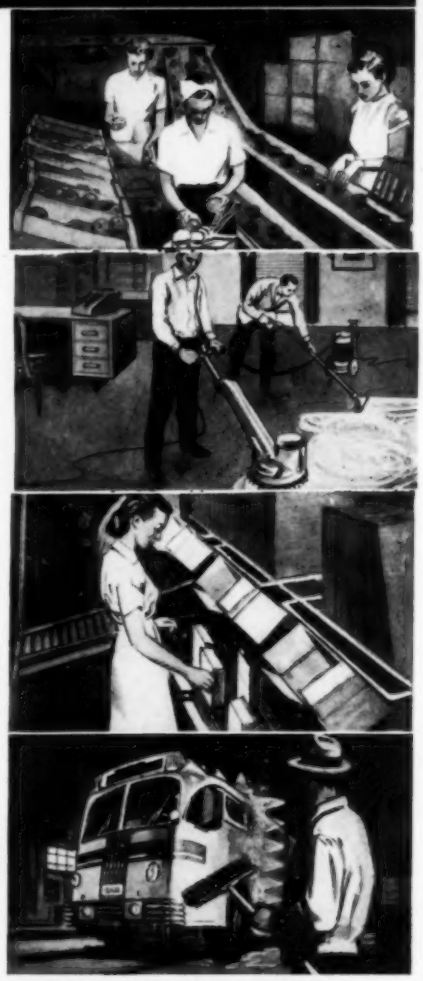
Four Examples:

1. FOOD AND VEGETABLE PROCESSING
A tremendous aid in washing, peeling and processing fruits and vegetables before canning or freezing. Improves their marketability and aids in the removal of dirt, insecticide and fertilizer residue.

2. UPHOLSTERING AND RUG CLEANING
These detergent products find widespread use in plant or "on-location" cleaning of rugs, carpets and upholstering. Excellent foaming qualities, easy rinsing and high efficiency in cleaning greasy type soil make them ideal for this purpose. Use them straight or in special compounds depending upon type of application.

3. CLEANING AND WASHING COMPOUNDS
Oronite supplies tremendous quantities of synthetic detergent materials to processors and compounders of packaged cleaners for all household and industrial uses.

4. TRANSPORTATION EQUIPMENT WASHING
Because of its fast action, quick rinsability and high detergency, Oronite D-40, either alone or in compounds, cuts cleaning and maintenance costs on trucks, trains, busses, passenger cars and other types of rolling stock.

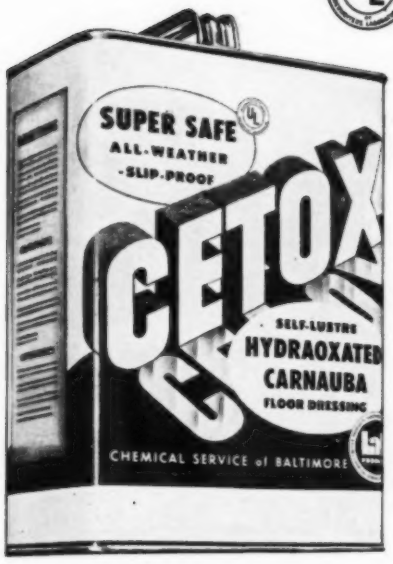


ORONITE CHEMICAL COMPANY

30 SANSOME STREET, SAN FRANCISCO 4, CALIF. — STANDARD OIL BLDG., LOS ANGELES 15, CALIF.
30 ROCKEFELLER PLAZA, NEW YORK 20, N. Y. — 600 S. MICHIGAN AVENUE, CHICAGO 5, ILL.
824 WHITNEY BLDG., NEW ORLEANS 12, LA.



CETOX the Hydraoxated carnauba floor dressing that's extra safe all year 'round!



CETOX makes all floors super safe —especially throughout year's 30% inclement weather when the risk of slips and falls is greatest.

Super safe—even under wet shoes

Normally, water underfoot acts as a lubricant. CETOX is extra safe under spilled or tracked in water. You simply won't slip, because CETOX contains Carnauba with the slip hydraoxated out of it. No silicas, or abrasives added. *It's hydraoxated super safe!*

Beautiful and safe

Self lustre CETOX makes floors dazzling bright. It is a wet mop proof, tough wearing, dirt resisting, protective floor dressing that may readily be removed with the use of a mild detergent. In every way, CETOX is superior. For safety sake . . . put CETOX on your floors.

Listed by UNDERWRITERS' LABORATORIES, INC. as anti-slip floor treatment material.

Tested-approved by YORK RESEARCH CORPORATION for American Hotel Association.

Write for complete information and name of your nearest distributor.

Chemical Service of Baltimore

HOWARD & WEST STREETS • BALTIMORE 30, MARYLAND

MEMBER OF NATIONAL SAFETY COUNCIL.

MALMSTROM
NIMCO
BRAND
WOOL FAT & LANOLIN

Free-Flowing

POWDERED LANOLIN SOAP

Powdered anhydrous free-flowing lanolin soap is new. LANOMAL* (1 & 2) means easier, less costly "lanolizing" of powdered and cake soap.

LANOMAL is added by direct mixing, simplifying production blending.

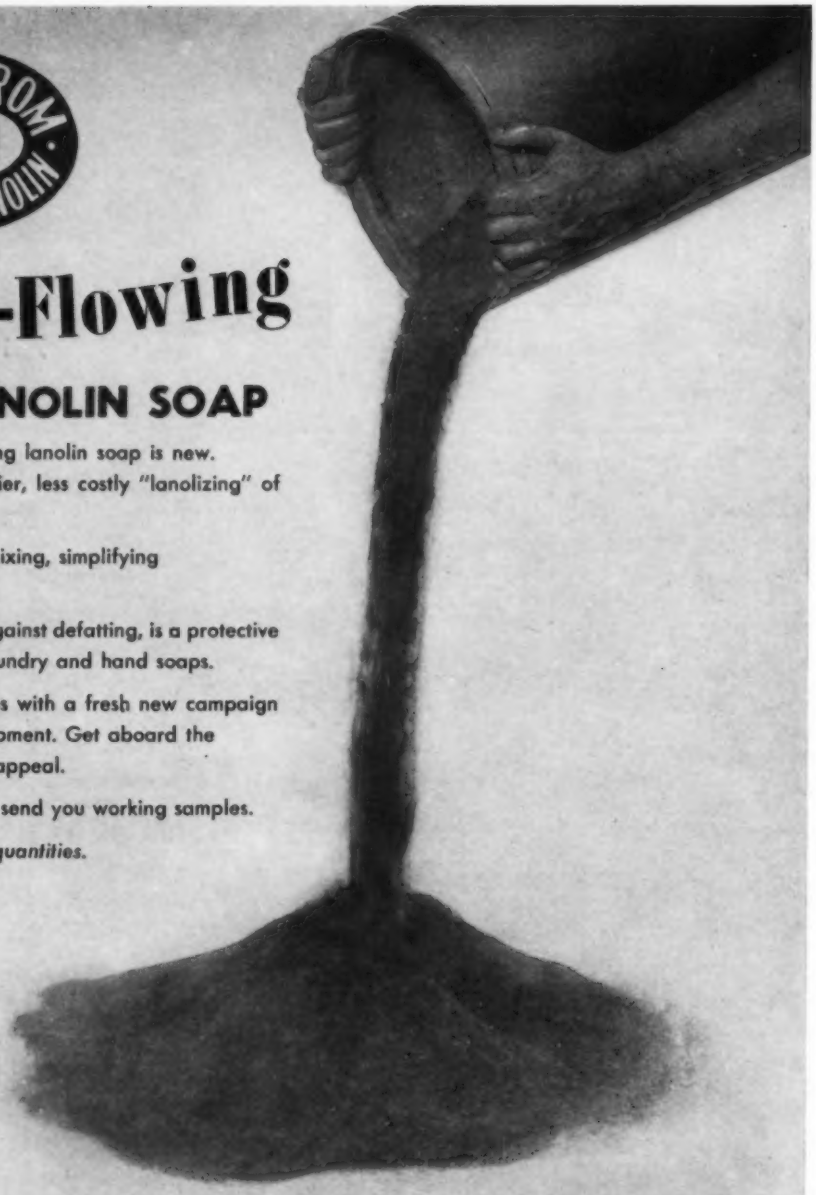
LANOMAL (1 & 2) safeguards against defatting, is a protective for those allergic to ordinary laundry and hand soaps.

Now is the time for adding sales with a fresh new campaign based on the LANOMAL development. Get aboard the driving force of proven lanolin appeal.

Call or write—we'll be happy to send you working samples.

Prompt delivery in commercial quantities.

*NIMCO POWDERED LANOLIN SOAP



Unretouched photograph of free-flowing powdered LANOMAL

TYPICAL ANALYSIS (WHEN PACKED)

LANOMAL SOAP #1 (POWDERED)		LANOMAL SOAP #2 (POWDERED)	
Lanomal Soap #1 is a prepared free flowing powdered product manufactured by blending 25% of Bentonite with 75% of "Lanolin Soap", with the following typical analysis:		Moisture	1%
Moisture	2.5%	Unsaponifiables (Lanolin Alcohols)	5%
Unsap. (Lanolin Alcohols)	34.0%	Sodium Soap	94%
Sodium Soap	63.5%	Combined Sodium Oxide	11%
Combined Sodium Oxide	7.8%	Saponified Lanolin Fatty Acids	83%
Saponified Lanolin Fatty Acids	55.7%	Free Alkali	None
Free Alkali	None	Ph. of 5% aqueous solution	9.5—10.0
Ph. of 5% aqueous solution	9.5—10.0		

Packing: 300# bbls. or fibre containers.

N. I. MALMSTROM & CO.

America's Largest Processor of Wool Fat and Lanolin

147 Lombardy St., Brooklyn 22, N. Y.

612 N. Michigan Ave., Chicago 11, Ill.

ARMOUR Chemical Division

Fatty Acids
Long-Chain Fatty Acid Derivatives
Industrial Oils

How Neo-Fat Fatty Acids cut costs of soap production

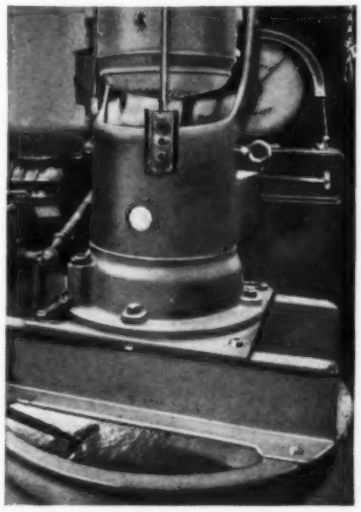
During the past few years there has been a definite trend toward the increased use of fatty acids in the manufacture of soap. They have been used to replace natural fats and oils which have heretofore been considered indispensable.

The Neo-Fat fatty acids, made possible by Armour's patented fractional distillation process, offer many distinct advantages to soap manufacturers.

Faster Saponification — One of the most important advantages of Neo-Fat fatty acids is that much faster and much easier saponification can be obtained than with natural fats and oils. This means that more batches of soap can be obtained within the same period of time. Thus the soap manufacturer is able to expand his production as a result of the greatly increased equipment turnover. The economy is evident, since volume is increased while equipment cost, labor cost and many overhead costs remain constant.

Higher Yield —The saponification with fatty acids is not only faster, but is also more complete. This characteristic of fatty acids results in a better finished and more neutral soap. Other things being equal, the actual yield of anhydrous soap obtained when using Neo-Fat fatty acids will be consistently higher.

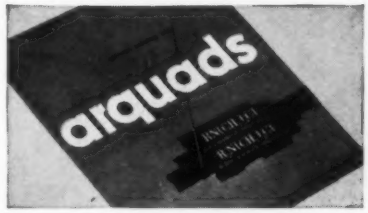
Greater Uniformity — Because the manufacture of fatty acids is a carefully controlled process, and a uniform fatty acid can be supplied, greater uniformity of the finished soap is obtained. Another important factor is that during the distillation of the Neo-Fat fatty acids practically all of the unsaponifiable matter and impurities are removed.



Armour produces 15 fatty acids particularly suited to soap manufacture, including:

	Titer	Neutralization Value	Iodine Value (WIJS)	Color
Neo-Fat 3	23.0°C.	198	120	2½ NPA
Neo-Fat S-142	17.0°C.	190	130	2 NPA
Neo-Fat D-242		173		WG-M Rosin Scale
Double Distilled Cottonseed Fatty Acid	37.0°C.	200	105	2 NPA
Double Distilled Corn Oil Fatty Acid	30.0°C.	199	110	2 NPA
Double Distilled Soybean Fatty Acid	24.0°C.	198	135	2 NPA
Double Distilled Animal Fatty Acid	40.0°C.	197	60	2 NPA
Double Distilled Coconut Oil Fatty Acid	28.0°C.	254	12	1½ NPA

Quaternaries as Germicides



Arquads is the trade name given to a series of quaternary ammonium salts manufactured by the Armour Chemical Division. Members of the series vary as to the length and number of long-chain alkyl groups attached to the nitrogen atom. This enables the user to select the Arquad best suited to his purpose.

As germicides, Arquads are particularly useful in water dispersions or solutions. Killing dilutions may be as low as 1 part of active material per 30,000 parts of water. Quaternaries will work when used in slightly acid solutions, but their best germicidal activity is exhibited in slightly alkaline conditions.

The Armour Chemical Division is offering a booklet containing data on physical and germicidal properties, average composition, compatabilities and the wide range of Arquad applications. Write for your free copy.

Mail this Coupon

Please send additional information on

- _____
- _____

*Name*_____ *Title*_____

*Firm*_____

*Address*_____

*City*_____ *Zone*____ *State*_____

ARMOUR Chemical Division
Armour and Company
1355 W. 31st St., Chicago 9, Ill.



25 years young

AND
GROWING
FASTER
THAN
EVER



HARDESTY
FATTY ACIDS

Red Oil
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•
Hydrogenated Fatty Acids
•
Animal and Vegetable
Fatty Acids
•
Glycerine
•
White Oleine
•
Stearine Pitch

W. C. Hardesty Co., Inc., for 25 years a dependable source of quality products, is now reinforced by the extensive research facilities of Novadel-Agene Corporation and its affiliate, Wallace & Tiernan Co., Inc.

With expanded production programs at its two plants and a larger technical field staff, W. C. Hardesty Co., Inc. is better equipped than ever to serve your needs promptly and precisely.

Look to W. C. Hardesty Co., Inc. for new developments in Fatty Acid Chemistry and for continued high standards of quality control to help you maintain your production at uniform top-quality levels.

W. C. HARDESTY CO., INC.

41 EAST 42ND STREET, NEW YORK 17, N.Y.
PLANT: DOVER, OHIO

W. C. HARDESTY CO. OF CANADA, LTD., *TORONTO, CANADA*

for DETERGENCY

It is effective on an unusually wide variety of soils. NYTRON has excellent power to remove oil and grease from fabrics, surfaces, metal parts. It cleans efficiently in cold, as well as warm or hot water and retains its detergent action when used in either acid or alkaline mediums.

for HARD WATER ACTION

NYTRON is more economical because increased quantities do not have to be added to compensate for water hardness; completely prevents the formation of scum, grease rings, streaks, spots.

for CHEMICAL STABILITY

Remains chemically stable over a wide range of temperatures, acidity or alkalinity.

for RAPID SOLUBILITY

NYTRON goes into solution almost instantly in hot or cold water and will not "salt out" in concentrated solutions of many acids, alkalies or metallic salts.

NYTRON

TRADE-MARK REG. U. S. PAT. OFF.

FOR PERFORMANCE

because...

NO OTHER WETTING AGENT-DETERGENT MATCHES NYTRON'S COMBINATION OF PROPERTIES

for QUICK, THOROUGH RINSING

NYTRON rinses promptly and completely in cool or even cold water, does not leave an insoluble deposit.

for REDUCED WETTING TIME

Effectively lowers surface tension, even in extremely low concentrations. It improves the action of acid and alkaline solutions over a wide range of temperatures.

for FOAMING

NYTRON will foam in any normal concentration of acid or alkali, in distilled water or sea water, in ice cold or boiling water.

for IMPROVING PERFORMANCE OF SOAP

Improves quality and lowers cost when used to partially or completely replace high-priced soap.

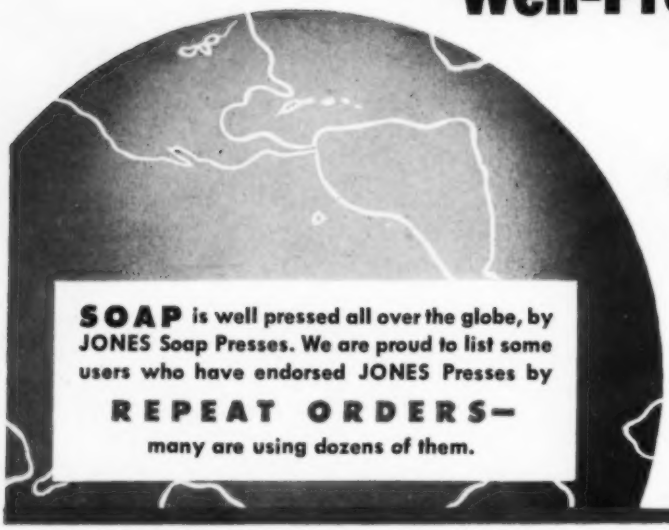
A SOLVAY PRODUCT

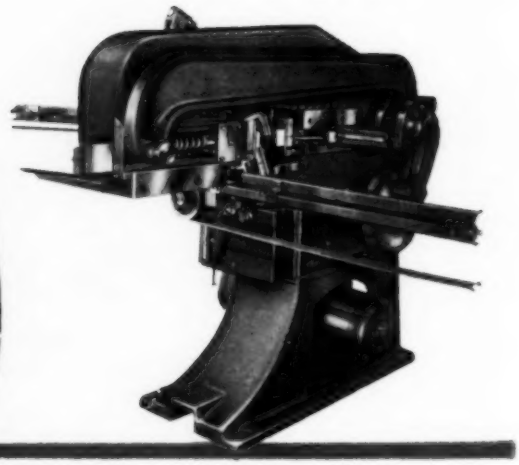
FREE SAMPLES...
MAIL COUPON

SOLVAY SALES DIVISION, Allied Chemical & Dye Corporation, **40 Rector Street, New York 6, N. Y.**
I want to know more about NYTRON, the Synthetic Organic Detergent with the exclusive combination of properties. Send me a free sample plus non-technical information and specific technical data.

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AS THE EDITOR SEES IT

HEARINGS on the Gillette Bill, S-345, get under way in Washington as we go to press. This bill, designed to regulate the manufacture, marketing and labeling of soap and detergent products, was fathered by Senator Guy M. Gillette of Iowa. The hearings are being held before a subcommittee of the Senate Committee on Labor and Public Welfare, presided over by Senator Herbert M. Lehman of New York. Essentially the bill is an amendment to the Food, Drug & Cosmetic Act designed (1) to eliminate the exemption now enjoyed by soaps under this law, and (2) require labeling of soaps and detergents for household use with a statement of ingredients by their common names.

The subject matter of these proposed amendments we have analyzed on previous occasions here. And as noted before, we can see not one iota of necessity for any such extended regulation of soaps, detergents or cleansers. If the changes could be of any practical benefit to the American public, our study of them has failed to reveal how or where. To place all soaps under the purview of the Food, Drug & Cosmetic Act, if extended to all its marketing and use possibilities, could develop some rather absurd situations. So, after looking into these Gillette legislative proposals for the past year, we have not changed our previous conclusion that they have no true public value, nor our previously expressed suspicion that behind them may lie political punitive action aimed at the soap industry.

Originally, we heard that the object of the Gillette Bills was to force the soap industry to use more tallow and grease, and to stem the tide of synthetic detergent advancement. This was to be accomplished by making the public aware via a package label what it buys, whether soap or "chemical substitute." That any such idea is ridiculous should be self evident. It is akin to the carriage manufacturer of 1900 trying to outlaw the automobile by legislation. The answer to the tallow consumption problem lies elsewhere. It is economic and will not be solved by a new law.

Coming as we have fresh from the shameless Delaney Committee hearings on "chemicals in food," we trust that there shall be no repeat performance here. We assume that this Senate subcommittee sincerely and honestly is in search solely of the truth. With Senator Lehman presiding, we feel certain that such a path will be followed.

SEVERAL experienced observers of the chemical markets do not believe that the lull in demand of the past several months will continue too long after October 1st. In spite of the fact that genuine scarcities are confined to a few basic materials of which benzol and chlorine are still outstanding, they express the view that all markets are due to tighten up this fall. The reason they present is the defense program which is just beginning to get into full swing. Irrespective of any resumption of negotiations in Korea, they point out that to date the real armament program has been mostly in the blueprint stage. Broadening of actual procurement could switch the complexion of chemical, oil, fat, and allied markets overnight and put us right back where we were a year ago.

Whether these predictions are right or wrong, we believe that buyers should look further ahead than present activities would indicate. No matter where prices are at the moment, and even if lower prices appear to be in the offing, the present does not appear to be a good time to be short of anything. For the balance of the year, at least, a well-covered inventory is undoubtedly a position of impunity particularly in raw materials which have established lower price levels. And

thus we report here what the "experienced observers" are saying. They may be right; they may be wrong. You pays your money and takes your choice!

AS THE average small manufacturer of soaps, detergents and allied chemical specialties sits back and contemplates the mass of government printed matter which comes across his desk almost daily, his feeling of hopelessness is quite understandable. All sorts of communications come from OPS, NPA and other government departments, price and material control orders, and countless amendments and changes,—most of which to him are pure and unadulterated Greek. That he is puzzled and confused by the whole business is to put it mildly indeed. He does not know what to do or when to do it,—and accordingly, for the most part, does nothing.

The number of small business men who deliberately break the law is in our opinion not too great. Chiefly, we feel, violation grows out of ignorance. And in the case of NPA, OPS and associated orders, amendments, rules and regulations, ignorance and attending confusion are widespread. As a consequence, for lack of something better to do, the small operator ignores the whole thing and continues on a basis of "business as usual." Many such are breaking the law now, and the number in the category after October 1, in our opinion, will increase.

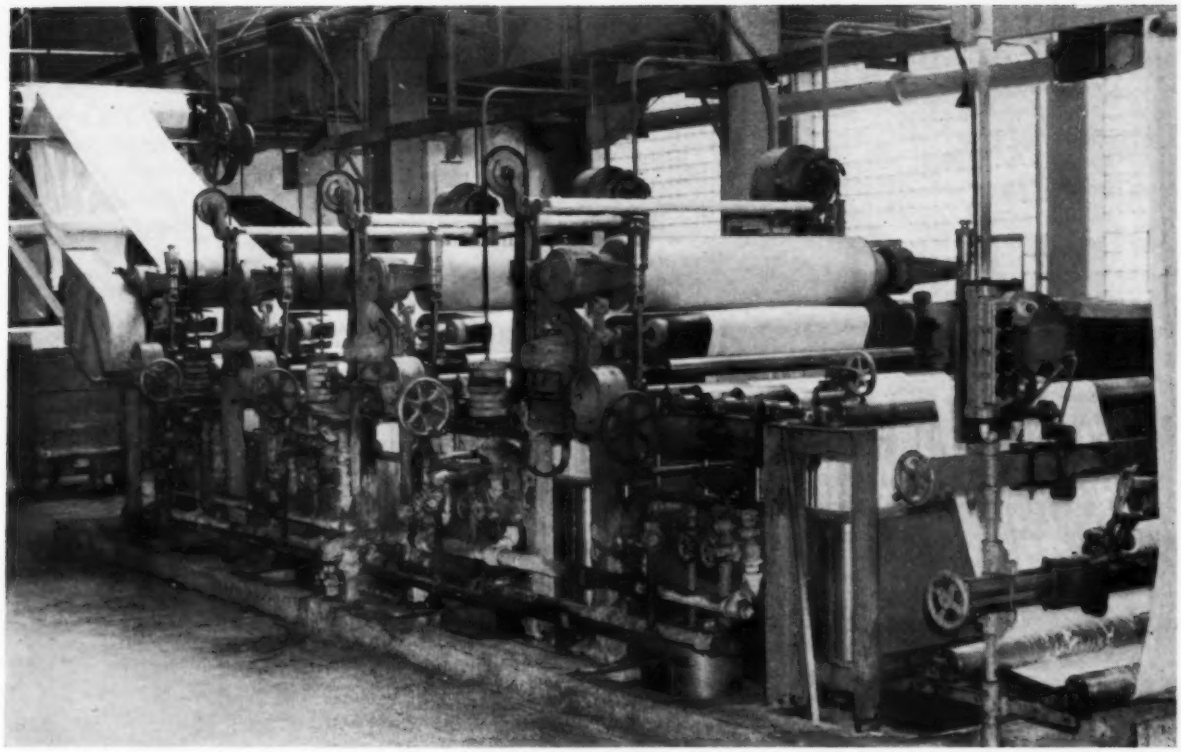
Large companies have set up special departments manned by experts to handle NPA, OPS and allied matters. Small firms, obviously, cannot afford this. Those which are members of trade associations receive much assistance from this direction. However, the vast number of small outfits who do not fall in this category are surely babes-in-the-woods. Officials of OPS and NPA, many of whom are temporarily transplanted out of industry itself, have shown a fine understanding of these problems and a complete willingness to be of help. But, personal visits to Washington are often necessary, and how many small outfits can afford the time or money for such?

That the whole problem of price and materials controls has become a welter of confusion to many companies, not excluding a goodly number of larger outfits, is no surprise. Attempts to steer the plan on an even keel, to avoid undue hardships anywhere, have piled complication upon complication. It is tough enough for the larger firms; for the smaller ones, a hopeless maze. And unless a way is found to bring simplification out of present confusion, control orders will be ignored by thousands of smaller companies by dint of necessity alone.

IF ONE fact stands out in the record against some synthetic detergents, it is the matter of unpleasant odor. As the use of synthetics spreads and as new ones come to market, complaints about odor have appeared to increase. Initially, complaints used to be heard that they smelled like kerosene. But compared to more recent kicks from household users which have come across our desk, early objections were indeed mild.

The most recent complaint,—and it involves not a product of limited reputation, but one of the big-name nationally advertised brands,—stated that the material when put into hot dish water gave a duplicate of the effect when the lid of a well-filled garbage pail is removed. The odor was not mildly unpleasant as is often the case; it was extremely bad, sufficiently so to cut the product from the shopping list. This is not an isolated case. There are other products with similar shortcomings of which their manufacturers most certainly must be aware.

That this odor problem in synthetics can be solved by proper perfuming, we have little doubt. Far more complex odor-covering problems have been solved satisfactorily, not to mention also any number of synthetic detergents which are well perfumed. But, possibly some manufacturers consider the subject of minor importance. We can assure them, however, that they are dead wrong. That odor is an important factor in the consumer's choice of a synthetic detergent product for household use is obvious to anyone who has taken the trouble to ask the housewife why she uses a particular product. Quite frequently, the odor of the detergent is the most important reason for the choice of her favorite brand of synthetic detergent.



In this typical continuous open-width scouring train, textiles are run through baths containing the synthetic detergent. Mt. Hope Finishing Company photo.

Detergents for Textiles

By Sidney M. Edelstein*
Dexter Chemical Corp.

WHAT is a detergent? Surprisingly enough, the word detergent, which is so widely used in the technical literature, in the press and on the radio, does not have a single exact meaning for everyone. The Dictionary says that a detergent is something which cleans, or which purges away. Under this definition, my wife's vacuum cleaner, the garden spray, acid and alkalies, as well as soap and soap-like materials, can all be called detergents.

I believe, however, that for textile chemists, the word detergent means a substance which when dissolved in water, in small amounts, will improve the cleaning properties of the water by a physico-chemical effect rather than by a straight chemical or physical effect. Obviously, this definition includes soap as well as the so called synthetic detergents.

There is no more reason to call a fatty amide condensate a synthetic detergent than to call soap a synthetic detergent. Both are artificially made by chemical processes and are built mainly from fatty raw materials. Nevertheless, there has come into the trade a certain understanding as to the use of the term detergent in contradistinction to the term synthetic detergent. The word detergent means all of the detergents fitting in with our above mentioned definition, including soap. Synthetic detergent has come to mean all of the detergents fitting in with our definition and which are made by chemical means, but excepting soap. Therefore, when

AS a research chemist for the AATCC and now as a manufacturer of textile processing chemicals, the author has collected many questions about detergents. Taken from discussions, meetings and forums on detergents, they indicate that for many, detergents provide a real dilemma. The author's answers indicate a solution to this dilemma.

*Presented recently before the American Assn. of Textile Colorists and Chemists, Northern New England Section

we speak of detergents, and the action of detergents, and the properties of detergents, we are speaking of soap as well as the synthetic materials. If we wish to exclude soap, we say synthetic detergents.

How Detergents Work

HOW does a detergent work? This question has been asked numerous times, and whether the answer is given by an expert, by a scientist, or by a practical man, the answer must, to a certain extent, be evasive. No one really knows, completely, how a detergent does its work. The factors involved are so complex that they cannot be completely evaluated. The types of soils and dirts, the variety of fabrics and surfaces, which may be cleaned with a detergent, are almost infinite, and each type of soil, each type of surface, affects these factors in its own particular way.

There are certain fundamental actions which do seem to take place in a detergency operation, and these have been fairly well agreed upon. First, wetting. Obviously the detergent must cause the liquid to wet, or to come in intimate contact with the dirt, with the surface that is to be cleaned, and generally, with the air that is held by the surface. Secondly, the detergent must cause the liquid to separate the particles of dirt from the soiled surface, and then these particles must be suspended or emulsified. Thirdly, in a detergency operation there must generally be a deflocculation action, or electrical attraction for the dirt particles by the detergent solution, so that the dirt is not redeposited on the surface being cleaned. Fourth, often some chemical action is a factor in detergency operations, but generally this is a minor factor.

Washing Problems Differ

IS THE problem of washing dirty clothes and scouring textiles the same? I believe many of us have found out, with a bit of chagrin, that the answer to this is a big "No." The problems of laundering and of textile scouring are for the most part completely different.

In scouring most dirty clothes an abundance of dry dirt is generally encountered. Grease and fatty matter are usually imbedded in the dirt. In most textile processing operations we find the reverse to be true. Rarely is it required to remove dry dirt. In most cases, the scouring operations involve the removal of oils and oily materials. Generally dirt will be suspended in the oil or fat.

Perhaps the biggest factor in the difference between the action of a good detergent in a textile operation, as against a good detergent in a laundry operation, is related to the suspending and deflocculation properties of the detergent. For example, there is no question of the satisfactory scouring properties of many alkyalryl sulfonates in textile operations. In laundering however they are very poor, unless materials which improve the suspending action of the detergent are added in large quantities. Apparently, in laundering operations it is necessary not only to remove the various types of dirt, but to keep this dirt suspended and thus preventing it from redepositing on the cleaned surface.

Detergent Properties

WHAT properties must a good textile detergent have? The obvious answer is that a good textile detergent must have the properties which are necessary to do the job at hand. Since the job at hand may vary from such things as scouring light acetate fabrics to scouring dirty wool, no general properties can be given. Obviously there are many properties, which while necessary for one particular operation, might be harmful for another. Suppose, for example, a light-weight acetate fabric is to be scoured. Here, high alkalinity in a detergent would be undesirable, yet to scour a very heavy cotton fabric containing a large amount of grease, the high alkalinity would be considered desirable and, in fact, perhaps necessary. In the matter of substantivity a detergent which is highly substantive to proteins might be perfectly satisfactory in scouring cotton but might prove too expensive in scouring wool because of its rapid exhaustion from the bath.

What about hard water? Is dye leveling necessary? Is the detergent to be used in the presence of salts? Is the fabric one that is difficult to wet, or is wetting no problem? Obviously, in trying to answer our question we have only asked a lot of questions, and we come back to where we started. Again we say, a good textile detergent must have the properties which are necessary to do the job at hand.

Different Detergent Types

WHAT is the difference between anionic, cationic, and nonionic detergents? For our purpose we can say that anionic detergents are those detergents which when dissolved in water, divide up into particles having positive and negative charges with the heavy part, or working part of the molecule, showing a negative charge in solution. The anionic detergents, as a class, include the bulk of the detergents being used today in textile processing.

The cationic detergents are those detergents which when dissolved in water also split into particles having positive and negative charges with the working part of the molecule having a positive charge. Cationic detergents are little used in the textile industry for detergency problems, and are known to us as softeners.

The nonionic detergents are those detergents which when dissolved in water do not split up into positive and negative charged particles. The nonionic detergents are characterized by resistance to precipitation with salts, acids, and alkalies, and with ionic detergents.

Differences in Anionics

WHAT are the differences between the main anionic detergents? There is no completely satisfactory system for classifying the various anionic detergents. Generally, however, most chemists prefer to differentiate the anionic detergents on the basis of the solubilizing group. The first important anionic detergents are those in which the solubilizing group is a carboxylic acid. For all practical purposes, this means the

soaps. The soaps, in general, are characterized by good cleaning and scouring properties when used on the alkaline side. Their obvious disadvantage, of course, is the fact that they are not satisfactory in the presence of hard water or in the presence of acids and salts.

The next important class of anionic detergents is that which may be classified broadly as sulfuric esters. The sulfuric esters are subdivided into three distinct groups; each of which has its own characteristics. The first sub-group under the head of sulfuric esters are the sulfated fatty alcohols. These products, in general, are characterized by good foaming properties in acid or alkaline solution, by good resistance to salts and generally by good wetting properties. These materials, also, generally leave the goods quite soft.

The second sub-group is made up of the sulfated amides which are widely known and used. The sulfated amides are excellent foaming agents, have very high wetting properties, and are very similar in many of their properties to the sulfated fatty alcohols. The third sub-group among the sulfuric esters is the sulfated esters, which while similar in their properties to the sulfated alcohols and the sulfated amides, do not find themselves as widely used in the textile industry as either of the two other products.

The third large main group of anionic detergents is composed of the alkane sulfonic acids. The most important among these are those in which the sulfonic group is hooked on through an amide linkage. These products are similar in many ways to the corresponding sulfuric ester products, in wetting and in detergency. However, they do show a higher stability to extreme acid conditions. Those with the sulfonic groups joined through an ester linkage are of somewhat less importance.

Finally, we have what is probably the largest group among the synthetic anionic detergents in terms of tonnage. These are the alkyalryl sulfonates. While theoretically there are many possible structural variations for this type of product, for the most part we find that the alkyalryl sulfonates, in use as detergents today, consist generally of a benzene or toluene nucleus to which a sulfonic acid group and a long chain aliphatic group are attached. In general the aliphatic groups are derived from the kerosene fractions of petroleum. The alkyalryl sulfonates are characterized, in general, by low unit cost. These products have good wetting properties but in general have poor dirt suspending and deflocculation properties.

Detergent Evaluation

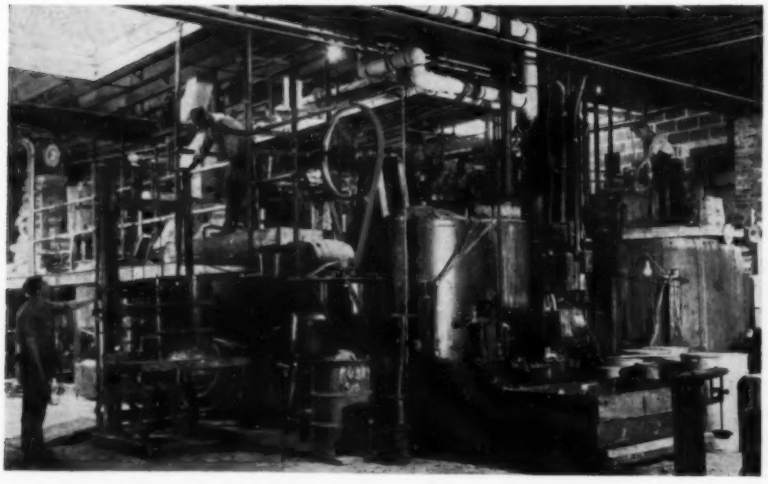
CAN detergents be evaluated by chemical analysis? If we mean by this question can we tell whether one detergent will do a particular job better than another by determining the active ingredient content, the answer is "No." If we mean by this, will the complete analyses of two detergents, tell us which is the better money value for our particular process, then the answer is "No." If we mean, however, can a chemical analysis serve as a guide to the general properties of a detergent the answer is "Yes."

In examining these statements, let us take the matter of active ingredient first. I wonder how many detergent salesmen have had their product either bought or rejected on the basis of the amount of active ingredient his product contained, or on the unit cost of the active ingredient. Generally such a basis is economically wrong. Let us take the example of a typical alkyalryl sulfonate as compared with a typical sulfated fatty amide. At an equal selling price it will generally be found that the alkyalryl sulfonate will contain about twice the amount of active ingredient as will the sulfated amide. On a performance basis, however, the two may be equal in certain operations and in fact in some scouring operations the sulfated amide, which contains much less active material, may do a better scouring job than the other product containing a greater amount of material. Obviously, the determination of the impurities, SO_3, ash and water, also fall into the same category as the determination of the active ingredient. All of these determinations are of use in certain particular cases however.

If we are dealing with one specific type of detergent, as for example, a sulfated fatty amide, and we wish to evaluate it against another sulfated fatty amide, the determination of the active ingredient content of both products, as well as the determination of the type of impurities will give a measure of the relative value of the two products. In addition, the type of impurity, or builder, may indicate certain specified properties. Finally, the SO_3 content together with the other constants may indicate how carefully componded and prepared each of the products is.

Now what about using chemi-

This section of a chemical plant shows the type of equipment used in the manufacture of synthetic detergents. This is a sulfonation unit.



cal information for determining the possible value, or use, of a detergent in our particular operation? The chemical constants can indicate the chemical structure of the compound. This information coupled with experience, with many compounds, should tell what may be expected as to the compound's resistance to acids and alkalies, its substantivity, and a host of other properties. But, again, we must say that chemical analysis, no chemical analysis, can evaluate one detergent against another, either from the efficiency standpoint, or from the dollar and cents standpoint, unless we compare two detergents of exactly the same chemical structure.

Physical Tests on Detergents

CAN detergents be evaluated by surface tension measurements or by other physical tests on their solutions? Surface tension measurements are in no way a measurement of the detergency powers of a particular detergent. As a corollary, we can say that there is no direct relationship between the ability of a detergent to lower the surface tension of water and its ability to cause that water to clean. Such methods as the measurement of inter-facial tension between other surfaces, and the measurement of dispersing power for umber, iron and silica, have also been proposed as means for testing detergents. In no case has any of these particular physical testing methods been able to predict the performance properties of a detergent. On theoretical grounds alone there is no reason to believe that any such test can ever be used to indicate the performance of a detergent.

Wetting Tests

WILL wetting tests evaluate detergents? Wetting tests, so far, are not able even to evaluate wetting agents except in very narrow specific cases. How can we then expect such tests to evaluate detergents? Wetting in itself is certainly, generally, an attribute of a detergent. In most cases it is desirable that the detergent have a reasonable amount of wetting power. Whether the wetting power is very rapid or slow, however, may, or may not be, of importance. The wetting tests which are used today are based on the time of sinking of either cotton yarn, cotton tape, or cotton fabric, in a solution of the agent being tested. It has been shown that with all tests so far put forward the wetting properties of two agents can be compared only when they are of exact chemical nature. Obviously then, wetting tests, can be used only for very rough comparisons of wetting in most cases. Since wetting is only one desirable attribute of a detergent, it is completely erroneous to measure the efficiency of a detergent by any type of wetting tests whatsoever. Wetting tests can be of use with detergents, however, when they are used as a means of control. For example, it is possible to set up wetting curves for a particular detergent being used in the plant, and then use wetting tests to determine the concentration of the detergent in the bath at any time. Uses for any other purpose may be completely misleading.

Soiled Cloth Test

CAN the money value of a detergent be obtained by standard soiled cloth detergency tests? The tests discussed so far are all concerned with specific properties of a detergent. Surely, if we could measure the actual detergency or cleaning value of a detergent under some set of controlled conditions, then, actual evaluations of detergents could be made and their money value indicated. The mere fact, however, that the types of surfaces which must be cleaned and the types of soils which must be removed are so varied, precludes the possibility of any single standard soiled cloth or soiled surface being used to give an exact measure of the detergency powers of a detergent. Many laboratories and research organizations have developed, and are using, artificially soiled cloths. For the most part, these soiled cloths contain mixtures of mineral oil, lamp black, hydrogenated vegetable oil, gums and other materials. Even in the preparation of such fabrics the problem of making a soiled fabric which will remain standard under long conditions of storage and which can be reproduced from time to time, has proved difficult.

In textile processing not only are there differences in the type of dirt which must be removed, but there is the problem of removing dirt from such fibers as cotton, wool, rayon, nylon, and mixtures of these and other fibers. The mechanical surfaces themselves, the type of weave, the type of machine on which the fabrics are scoured, the temperatures, the time of contact and many other factors obviously affect the results. How can a single soiled fabric, or any reasonable groups of standard soiled fabrics be equivalent to all the soiled fabrics encountered in production. In addition, the detergency tests on these standard soiled fabrics are usually carried out in a machine such as a launderometer. The factors of water to goods ratio, temperature, and mechanical action, are obviously very different in these laboratory machines from those encountered in the plant.

It has been found by many workers that with one particular soiled fabric, using the usual type of launderometer tests, one detergent may show up much better than another, but with another type of soiled fabric the reverse may be true. Also, when an attempt is made to relate any of these laboratory detergency tests to actual practice rarely do they agree with what may be found. The answer to this must be, and the consensus among practical men is, that the money value of a detergent cannot be obtained by standard soiled cloth detergency tests.

Laboratory Tests

CAN laboratory tests be developed to evaluate detergents for use in a specific plant operation? The work of several who are members of one of the detergency committees working at Lowell (Lowell Textile Institute) has certainly shown that the answer to this question is a big "Yes." It is obvious that to evaluate a detergent in the laboratory for a particular plant operation, we must set up in the laboratory, as closely as possible, the conditions under which the detergent will

(*Turn to Page* 53)

Bottle Cleaning Compounds

A good bottle washing material must be free draining, not foam excessively, have good cleaning action, have sufficient germicidal properties and exhibit free rinsibility

By Milton A. Lesser

THE bottle washing division is one of the most important departments in a beverage plant. Because a bottle is simultaneously a container and a display piece for its contents, the production of clean, sparkling, sterile bottles is a basic requisite in the successful operation of bottling plants. In addition, the effectiveness of the washing procedure may determine, to a large extent, both the appearance and the keeping qualities of a beverage.

For these reasons, and because the refillable container represents a considerable investment, the washing of bottles must be carried out with the same degree of efficiency and rigid control as is required in the other manufacturing operations. The importance of this step is further emphasized by Tenney, (1) who pointed out that dairies, carbonated beverage plants and breweries wash billions of bottles each year. Although each field has specific problems of its own with regard to the kind of dirt to be removed, the requisite equipment and materials for washing bottles are of common design and composition.

In all cases, the aim of washing procedures is to yield bottles that are: (a) free from visible soil, (b) free from invisible soil, such as bacteria, molds, yeast and the like, (c) free from odor, (d) free from alkali, and (e) free from physical damage, cracks, chips and similar injury that would make the bottle unsaleable. (2)

It is noted in a report (3) to the bottling industry that bottle washing is "a complicated process involving mechanical, hydraulic, chemical and physical principles which must be controlled by proper operating techniques." It is fortunate, therefore, that the problem has been simplified by the availability of good equipment and efficient cleaning compounds.

Most bottlers employ mechanical bottle washing machines and excellent literature on the various types of machines is available from the equipment manufacturers. As pointed out by Ross, (4) these machines are of three types. The first is the hydro washer, which consists of a series of spray jets which first force the cleaning compound (alkali) and then the rinse water over the inside and outside surfaces of the bottles. The second, or soaker type machine, contains from one to six large tanks in which the bottles are immersed or "soaked" in cleaning solution. Subsequently, the bottles are sprayed with water to rinse off the residual alkali. Combination hydro-soaker washers have both tanks and spray jets for cleaning the bottles.

In discussing the types of washing machines used by the major bottling groups, Ross notes that all types of equipment are used in dairies. In contrast, because labels and more resistant kinds of dirt present special problems, most breweries employ the soaker type bottle washing machine. Either the hydro or soaker type of machine may be used, depending largely on whether a label problem exists, for washing carbonated beverage bottles.

Cleaning Compounds Similar

ALTHOUGH the kinds and amounts of soil may vary, there is no great difference between the bottle cleaning compounds used by dairy, brewery and carbonated beverage plants. Pertinent in this connection is the statement (3) that, in general, each plant is a law unto itself and must choose a compound or compounds that will fit the individual plant conditions. Such factors as the water hardness, labels, label glue, type of machine, rate of operation, age of bottles, kind of soil to be removed, and other considerations will determine how the bottles must be washed.

Whatever compound is selected it should meet certain basic requirements in order efficiently and economically to produce clean, sanitary bottles. According to Wittschiebe, (5) a good bottle washing material must be free-draining, should not possess objectionable foaming tendencies and must have good cleansing action, sufficient germicidal properties and free rinsibility. It should, in addition, provide proper lubrication of the washing machine parts, retard the development of lime scale and be safe and economical to use.

However, this authority also points out that no matter how efficient a bottle cleaning compound may be, experience has shown that it cannot produce satisfactory results unless it is employed in properly operating equipment, at the recommended tem-

perature and, most important, at the correct concentration.

The factor of concentration has been the subject of considerable investigation. Particularly important, and forming the basis of many recommendations, are the findings made in studies sponsored by the American Bottlers of Carbonated Beverages, more simply referred to as the A.B.C.B. As a result of these findings it was decided that, with conditions of temperature and time of alkali contact fixed correctly, the strength of the washing solution should be not less than three per cent total alkali, not less than 60 per cent of which should be caustic (sodium hydroxide). The actual time of contact between alkali and bottles should not be less than five minutes. When possible, a temperature of 130°F. should be maintained. If the temperature is allowed to fall below 120°F., higher alkali concentrations will be needed.(6)

These standards have been incorporated in a beverage code recently recommended by the A.B.C.B. for the revision or modernization of state regulations. Although a number of states have adopted these standards,(3) it must be stressed that local health board requirements may be based on other compositions and concentrations, exposure periods, and temperatures. Of course, variations of state or local ordinances may apply, not only to soft drinks, but to milk and beer as well. Such rulings, as well as variations in water hardness and other factors, must be taken into consideration when formulating bottle cleaners for different localities.

After a bottle washing machine has been charged with the cleaning compound and put into service, there is a gradual consumption of the washing material. The amount lost will vary according to such factors as the type of compound, the speed of washing, the amount of scale on the machine, whether or not labels are being removed and the kind of label, "drag-out" on bottles and conveyors, and certain other plant conditions.

This loss must be replaced since a solution that falls below the requisite concentration does not clean the bottles completely and permits the bacterial count to soar. Therefore, washing solutions should be held to satisfactory strength by the continual addition of more of the compound. In addition, the washing solution should be completely changed at regular intervals. Observations cited by Buchanan and Levine(6) indicate that the solution should be changed after every 60 hours of operation. However, under some circumstances, as when the returned bottles are fairly clean, this period may be extended to as much as 100 hours. Conversely, as when the bottles have labels that need removal, it may be necessary to change the solution more frequently.(2)

Testing is necessary in order to maintain the washing solution at the correct strength. Among the best known are the two simple tablet titration tests developed by the A.B.C.B. One gives the total alkalinity expressed as caustic equivalent, while the other provides the per cent of actual caustic present in the solution. Electronic units are also available for determining the percentage of caustic soda rapidly. Special methods have been developed to correct for the error introduced by sodium aluminate from aluminum labels and special washing compounds.(7,8) Testing equipment adapted to determinations on proprietary mixtures is also supplied by some manufacturers.(3)

While single alkalies are sometimes used in bottle washing procedures, mixtures of materials are employed to obtain better effects. Thus, by careful compounding, it is possible to formulate bottle washing materials with such desirable characteristics as better water softening action, less scale formation, reduced alkali carry-over into the rinses, greater stability of rinse water, faster wetting and penetration of labels with subsequent faster label removal, better suspension of label pigments, better machine lubrication, reduction of alkali attack on bottles and on color-applied labels, and various other superior qualities. In all cases, however, it must be remembered that bottle washing alkalies are strong chemicals that must be handled with the care they deserve.(3)

Caustic Soda Important

IT SHOULD be quite obvious at this point that caustic soda or sodium hydroxide is the most important raw material in the formulation of bottle cleaning compounds. Indicative is the advice given by Buchanan and Levine(6) of the A.B.C.B. In buying a washing compound, they say, it should be specified that the material contain at least 60 per cent of caustic. Generally, according to Ross,(4) products having less than 70 per cent caustic soda are employed in hydro washers, whereas soaker units employ compounds having a higher caustic content.

Pointing out that caustic soda is the primary ingredient of all machine bottle washing compounds, Ross states that it is this ingredient which provides the greater part of the cleansing and sterilizing action, as well as the lubrication of the moving parts immersed in the solution. Investigations(6,7) have shown that sodium hydroxide is the most germicidal of all alkalies used in bottle washing solutions. For example, in work with milk bottles, Hobbs and Wilson (9) found that virtual sterility can be achieved through the use of caustic soda solutions of the proper concentration. They also reported that the addition of various substances, like sodium metasilicate, trisodium phosphate and sodium hexametaphosphate, helps to remove microorganisms by increasing the wetting, softening, emulsifying and deflocculating action of the caustic.

Aside from the use of these and other materials to improve the antibacterial action of sodium hydroxide solutions, various substances are combined with caustic soda to heighten the rinsing properties of the solutions and lessen their tendency to cause bottle clouding and scale formation in hard water areas. According to Ross,(4) materials like soda ash, trisodium phosphate, sodium metasili-

cate, tetrasodium pyrophosphate and various organic wetting agents have the ability of improving the rinsibility of the caustic-containing compound and each helps to ensure more complete water softening action. Other compounds, such as sodium aluminate and sodium zincate, are finding more frequent use in washing solutions to reduce scuffing, chipping, etching and other physical damage to the bottles. (2) On occasion, antifoaming materials are included in the bottle washing compounds.

Combinations of sodium hydroxide and sodium carbonate have long been used as bottle cleaning compounds. In suitable concentration, sodium carbonate improves the germicidal action of the caustic. In addition, such combinations provide improved rinsing and good lubrication. Scale formation, however, may be rather heavy in hard water districts.

Caustic soda-sodium carbonate mixtures may be made in various proportions. It is interesting that, in studies of washing compounds sponsored by the A.B.C.B.,(6) a mixture of 60 per cent caustic soda and 40 per cent sodium carbonate was used as a basis for comparison. One typical commercial product is said(4) to consist of approximately 85 per cent of caustic and 15 per cent of sodium carbonate.

TSP Long Used

TRISODIUM phosphate is another material that has long been used with caustic soda and other ingredients in the formulation of bottle washing compounds. Not only does it help to increase the germicidal action, but it is also an efficient means of reducing filming or clouding of bottles in hard water sections. In considering the influence of this component on rinsibility, Ross (4) points out that a product containing 5 per cent of anhydrous trisodium phosphate and 95 per cent of caustic soda will rinse as freely as one consisting of 30 per cent of soda ash and 70 per cent sodium hydroxide. Moreover, says he, the user has the advantage of 25 per cent more of the active cleansing and sterilizing caustic. However, as indicated in the table of typical bottle washing compounds presented by this authority, both trisodium phosphate and sodium carbonate may be included in such products. This is shown in the following composition:

	per cent
Sodium hydroxide	92
Trisodium phosphate	6
Soda ash	2

Of a similar nature is the following bottle washing compound, which is said (10) to be useful in dairy plants:

	per cent
Trisodium phosphate	15.0
Sodium carbonate	20.0
Sodium hydroxide	65.0

The more complex polyphosphates, like sodium hexametaphosphate, tetrasodium pyrophosphate and sodium tetraphosphate are very useful additions for overcoming difficulties due to hard water. Piper(11) observes that the formation of scale can be prevented by the use of bottle washing compounds containing such chemicals. The polyphosphates, says he, are also effective in redissolving previously formed scale and lime deposits. In time, the correct and continuous use of such products will prevent scale formation effectively and even remove previously formed scale.

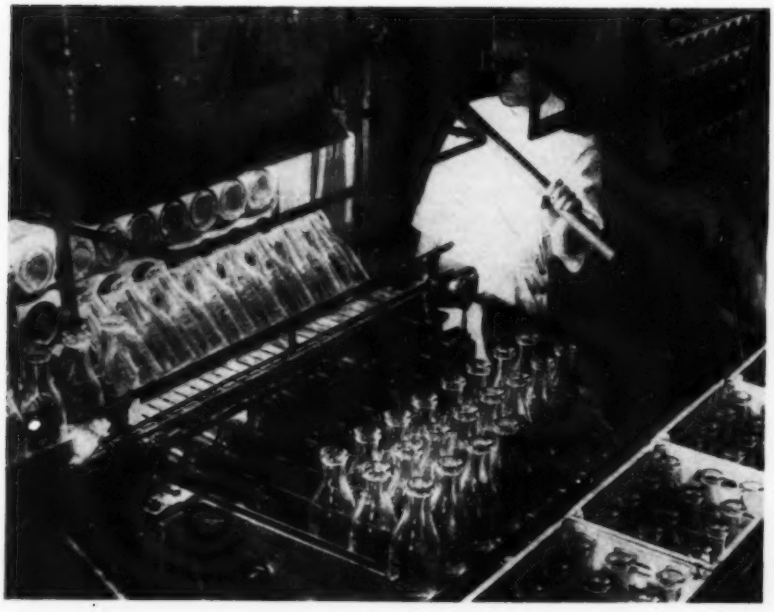
Bottle washing compounds made with polyphosphates to prevent scale formation in the washing machinery have been described in patent specifications.(12) Analysis(4) of a phosphate - containing commercial product indicates the following composition:

	per cent
Sodium hydroxide	90
Tetra sodium pyrophosphate	7
Soda ash	2
Moisture	1

Burkard(2) makes an interesting observation in connection with the use of phosphates. This authority points out that these chemicals are not usually incorporated in flaked bottle washing compounds because at the temperatures used in making such products, the polyphosphates revert to orthophosphates. Hence, polyphosphates are normally included only in the crystal or granular type of bottle washing alkali.

Burkard also mentions that silicates are sometimes used in bottle washing compounds. Noting that some machine manufacturers think that silicates form a type of scale that causes excessive wear, he remarks that silicates may appear in bottle washing solution from the labels. Pertinent, too, is the statement by Ross (4) that while sodium metasilicate les-

An important user of bottle cleaning compounds are the dairy products companies. Scene here is of milk bottle washing operation.



sens foaming, it interferes with the lubrication of the moving parts. For this reason, says he, it is not often used in bottle washing compounds. Nonetheless, sodium metasilicate is present in four of the typical bottle washing compounds cited in his discussion. One of these consists of:

	per cent
Sodium hydroxide	92
Sodium metasilicate	6
Soda ash	2

From another source(13) comes the following formula for a compound particularly suitable for soaker type machines:

	per cent
Sodium carbonate	5
Trisodium phosphate, anhydrous	7
Sodium metasilicate, anhydrous	5
Sodium hydroxide	83

According to Nivin and Gadberry,(14) silicates are used to give sparkle to the glass. They cite the following simple mixture as typical of compounds suitable for washing beer and soft drink bottles:

	per cent
Sodium hydroxide	85
Sodium sesquisilicate	15

Synthetics' Use Growing

SYNTHETIC detergents or syndets, as they are now being called, are finding growing use in bottle cleaning compounds where they serve to combat the effects of hard water, promote rapid label removal and speed up the rinsing operation. In discussing the value of such additions, Tenney(1) stresses that the syndets or wetting agents must meet certain requirements, among them being solubility and stability in caustic solutions together with high and persistent activity at low concentrations. He reports that the alkyl aryl sulfonates meet these basic requirements and the addition of an agent of this type to the alkali cleaner produces improved washing and rinsing results, better foil label removal from bottles, and increased microbial kill, regardless of the hardness of the water. In addition, scale formation by hard water was diminished. However, some foaming (which is undesirable) does occur when such a material is added to the bottle washing solution, but this is not objectionable in soaker type machines.

Tenney suggests that the alkyl aryl sulfonate may be added to the washing solution directly or first dissolved in water. The recommended ratio is three pounds of syndet for each 100 pounds of alkali employed. However, from the data presented by Ross,(4) it appears that prepared bottle cleaning mixtures containing syndets are available commercially. The two formulas given below will serve to illustrate their composition, in per cent:

	A	B
Sodium hydroxide	88	70
Tetrasodium pyrophosphate	10	24
Synthetic detergent	2	6

It is rather interesting that one of the newer syndets is attracting considerable attention(15,16) because, in addition to providing the usual benefits of surface active agents, it also possesses the property of substantially reducing the corrosive attack of caustic soda solutions on glass surfaces. Thus, this agent, called "Nytron" (Solvay Process Div., Allied Chemical & Dye Corp., New York), may be a valuable aid in cutting down the scuffing and related problems of the bottling industry, and thereby help to reduce bottle defacement and lower bottle costs.

According to Vaughn and his colleagues(17) defacement of bottles is a subject for which the terms etching, scarring, scratching, scuffing, pitting, nicking and corrosion are often used. The term scuffing is finding wide use, the condition being attributed to the effects of combined mechanical and chemical action. Mechanical damage is the result of impact, while chemical damage is contributed by the bottle washing solution. The addition of a scuffing-inhibitor to the cleaning solution can reduce this kind of damage markedly. It has been shown(18) that the extra cost of adding a scuffing-inhibitor compound to a bottle washer would more than pay for itself if two extra trips could be added to the average life of each bottle.

In addition to the previously mentioned syndet, a number of scuffing-inhibitors have been developed and patented during the last decade. They include sodium aluminate,(19, 20) sodium zincate(21) and related materials,(22,23) beryllium compounds,(24,25) tannins(26) and various other substances.(27,28) It should be mentioned, however, that the American patent covering the use of sodium aluminate as a scuffing inhibitor was assigned to the People of the United States, thereby making it freely available to the public. In a discussion(18) on the use of this material, it was recommended that the sodium aluminate be added to the bottle washer directly with the caustic compound. A ratio of one pound of anti-scuffing agent to each ten pounds of washing compound has proved satisfactory.

Comparing some of these materials, Burkard(2) has remarked that sodium zincate is more effective than the aluminum compound. It probably takes one-fifth as much sodium zincate as it does sodium aluminate to do the same amount of scuffing inhibiting. He notes that a bottle washing alkali containing sodium zincate is available commercially. Burkard doubts that sodium beryllate, which is more effective than the zinc salt, will be used by manufacturers because of its toxic tendencies.

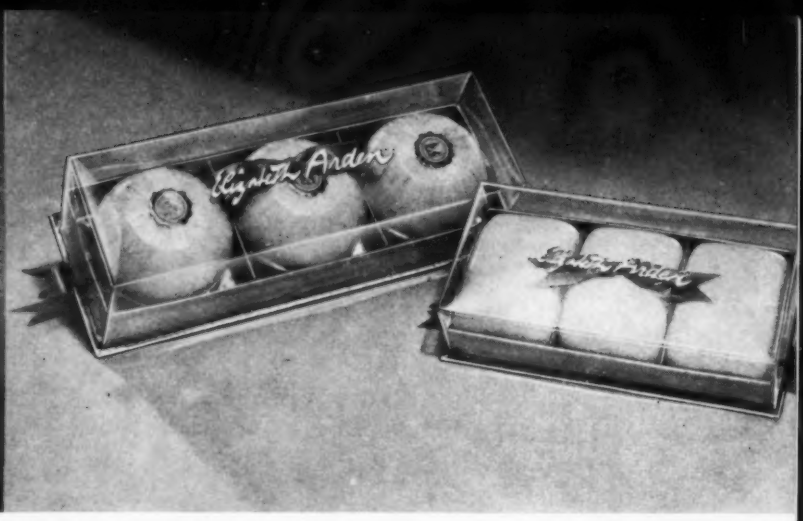
Foam Inhibitors

ADDITIONS are sometimes made to bottle cleaning compounds in order to inhibit foaming. Not only does foaming decrease the effectiveness of the washing and rinsing operations, but it also causes loss of cleaning compound, unsightly plant conditions and increased scale formation. Foaming may be caused by mechanical factors in the washing machine. It may also occur in areas where the waters are very soft. The accumulation of high concentrations of carbonates, glue and similar materials will cause serious foaming. In such cases, the A.B.C.B. manual(6) advises that the addition of lime or calcium chloride (actually to harden

(*Turn to Page* 145)



Guest size novelty soap in the form of bells is a Lightfoot Schultz suggestion for Christmas. "Jingle Bells" retails for $1.25.



The luxury line of soaps as gifts is exemplified by these two units from Elizabeth Arden of New York. Three cakes of June Geranium soap in acetate gift box retail for $2.25 in the hand size and $3.50 in the bath cake.

Soaps for Christmas

Standard items in gift wrapping, and some new novelty soaps scheduled for holiday market.

By John Regan

SOAP producers and the cosmetic houses who merchandise a "special brand" soap line are, for the most part this year, bringing out new packages—but not new soaps, for holiday retailing. There are a few new products, almost entirely in novelty soaps, but the trade in general confines itself to Christmas—or gift wrapping of regular items in the line.

Experience with highly concentrated "specialties" with a solely Christmas appeal has, almost universally, been impractical and disappointing. A very few things, and those largely directed at children's markets, with the foreknowledge that the sales potential is limited to two or three weeks, are produced—but the major effort for Christmas is to combine, gift wrap, and in general focus on the desirability of soaps as a gift.

Consequently, Christmas sales are simply the spring board for the new year, and packaging is "gift" packaging rather than exclusively "Christmas" packaging.

The use of the "sleeve" or "slipover" idea is very practical and frequently used—because the basic boxing, usually quite attractive in itself, can rather inexpensively acquire a Christmas importance, and lose it again in January —for fundamental sale as a gift all year.

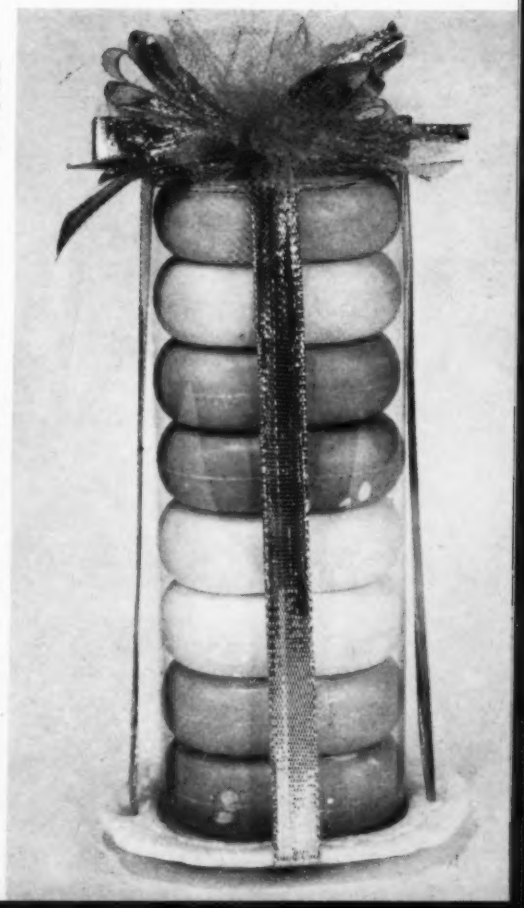
Prices of "gift soaps" are from about $1.00 to $5.00.

In the more expensive soaps retailers find color and fragrance very important. In the less expensive soaps, packaging seems to be more of a sales factor.

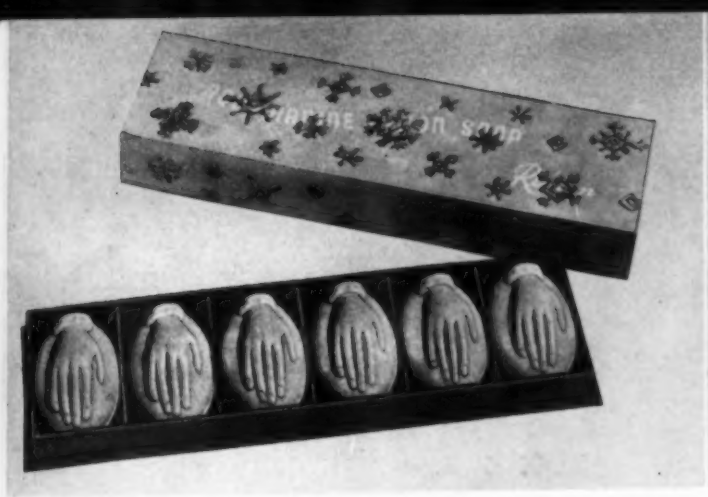
Here are selections from those lines available at this time, which show the gift, novelty, and direct Christmas wrapping.



Another novelty from the holiday assortment of Lightfoot Schultz is the four "Dancing Ducks" package to retail for 98c.



By stacking an assortment of eight cakes of bath and complexion soap on a soap dish and tying up the package with tinsel ribbon, Helena Rubenstein, New York, has come up with a novel gift soap idea. The package, which includes two each of the following scents: apple blossom, command performance, heaven-sent and white magnolia, retails for $3.95.





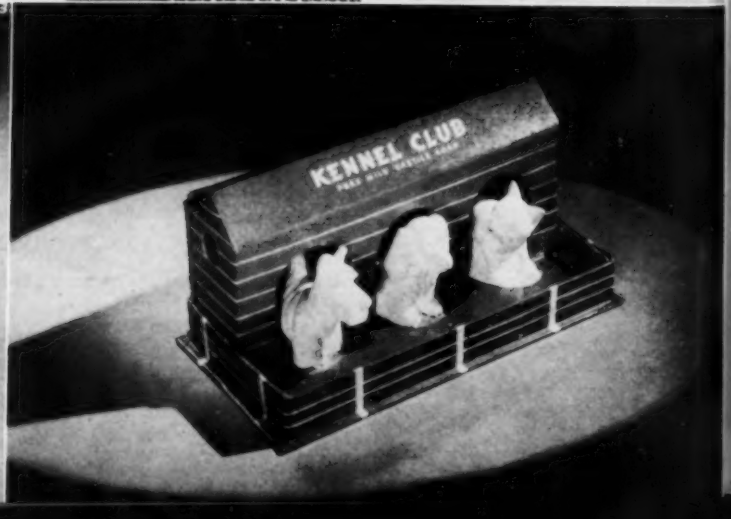
Molded hands of "Aquamarine" soap (above) is a Revlon Products Corp., New York, offering as a holiday gift. Retails for $1.35 in gift box. New for the Christmas season is the "Sport of Kings" line of men's toiletries (upper right) by Gourielli, New York. Reuseable package idea is adopted for standard items with strong equestrian background and flavor. The "D&R" shave set (center left) consisting of shaving cream and after-shave lotion is a Christmas special of Daggett & Ramsdell, Inc., Newark, N. J. to retail for $1.00. Package is in red. Trio of men's toiletries in box of white, bronze and cypress green (center, below) is "Lucky Three" package of Courtley, New York. After-shave lotion, antiseptic body powder in white "squeeze bottle" and tube of brushless shave cream have been combined to retail for $2.85, plus tax. Colorfully decorated acetate tubes of Elizabeth Arden (New York) soap (center, right) emphasize the novel in packaging for holiday gifts. Tubes are $5.00. A three-piece shave set in a maroon box (bottom left) decorated with its "men-of-action" motif on the cover is a Lentheric offering for the 1951 holiday season. Besides a five-ounce flacon of after shave lotion, there is a 3½-ounce maroon plastic container of shave powder and plastic shave bowl, all lavender scented. Retails for $3.00. "Kennel Club," a colorful soap novelty group (bottom right) features soap dogs in pink, white and yellow, against red brick and green setting. A part of the Christmas line of Allen B. Wrisley Co., Chicago, it retails for 50c.

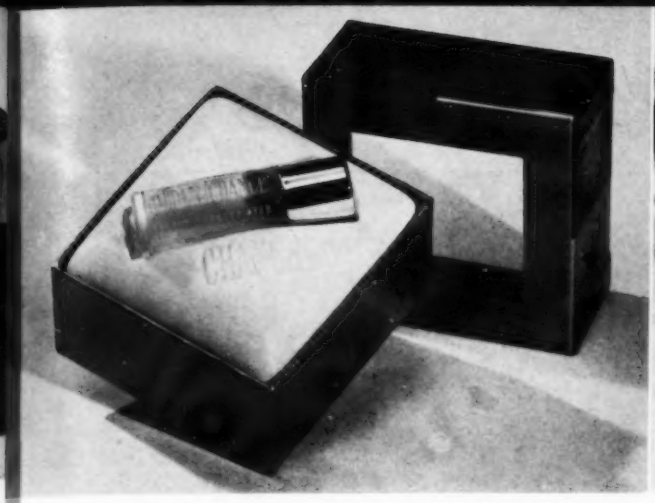














Harriet Hubbard Ayer's "Savonette Set" (above) combines a flacon of "Golden Chance" cologne molded into a cake of "Golden Chance" soap. The combination is packaged in an irridescent snowflake studded box with acetate window. Item retails for $1.25 plus tax. New Peggy Sage (New York) French milled soap (top, right) is packaged with Christmas wrapping to retail in sandalwood or sweetgrass scents for $1.50. Cream soap atop a jar of hand cream (center left) by Harriet Hubbard Ayer, New York, are packaged as a unit by means of a wrap-around cellophane gown that is tied in a choir boy bow of thin gold cord. A gift card dangles from the bow. This practical combination retails for $1.75 plus tax. A Christmas gift suggestion from Richard Hudnut, New York, (center, right) is a two-piece set for men. Handsome shiney black box lined with red holds tube of brushless shave cream and bottle of after-shave lotion. The retail price of the set is $1.60 plus tax. An adult soap gift package by Wrisley (bottom left) combines three floral design cakes of a maroon soap in a green lined set-up box, the exterior of which is done in gold stripes on white background. "Corsage" set retails for $1.00. "Frosty the Showman" (bottom right) in pure castille soap with two cylinders of pine-scented bubble bath are combined in a delightful package for children. The box has two little stand-up figures that slip out for children to play with. This novelty by Daggett & Ramsdell, Inc., Newark, N. J., retails for $1.00 plus tax.



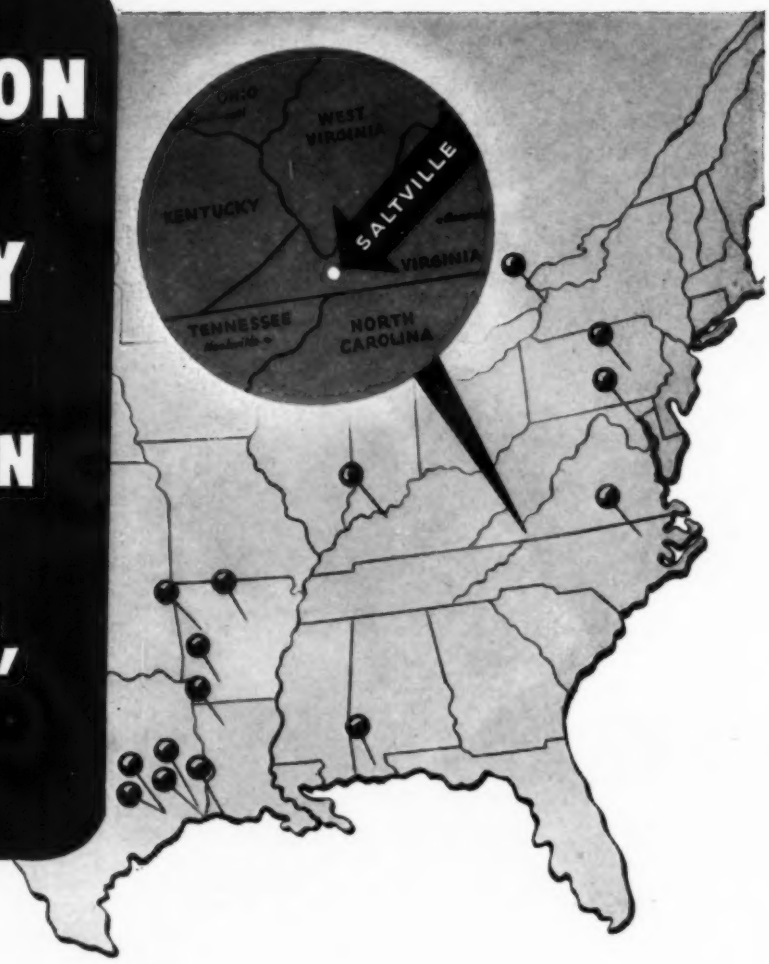








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New Soaps at Toiletries Show

COSMETICS and toiletries buyers attending the 9th annual Chicago Beauty and Fragrance show, last month, were optimistic about business prospects for the near future. Business is in a rising economic cycle, it was pointed out, and, as yet, no serious shortages have appeared. That such shortages of essential materials may arise was not discounted in conversations around the show but buying was done with full confidence in firm markets for some time to come. Orders placed indicated the expectation of heavy holiday buying by consumers.

The big midwest trade show, sponsored by the Chicago Associated Toiletries Salesmen was held Aug. 19 to 24 at the Palmer House, where 100 firms occupied all available space on the 7th floor.

Featured in their displays was much evidence that the merchandising of soaps, perfumes, beauty essentials and accessories is, as usual, making strategic use of every technical and scientific development which adds practical appeal to the varied products offered consumers. Private label manufacturers were strongly represented, particularly in the soap field, and at least one imported line of soaps and other beauty luxuries was noted among the exhibits.

The House For Men, Chicago, manufacturers of the "His" line of masculine toiletries, featured a new collapsible plastic dispenser, adopted two months previous for three items, a liquid after shave lotion, cologne deodorant containing "G-11," and talc. Also new was an after shave lotion in solid stick form and a new 8½ ounce shower bar deodorant soap containing "G-11." For the nation's armed forces a plastic service kit has been designed, complete with mailing wrapper for overseas shipment as a gift. Included in the set are five items, with additional space for the recipient's tooth brush and paste. In charge of the exhibit was Charles Cameron, sales manager.

Lightfoot, Schultz & Co., New York, displayed 43 novelty soap designs, with Frank Heinemann, sales manager, in charge. Out of 12 designs for the kiddies three were new and in the adult line seven were shown for the first time. To promote sales of "Avaderma" dry skin soap a plastic bag containing seven cakes has been offered to the retail trade since early July, Mr. Heinemann said.

Monogram Soap Co., Los Angeles, Calif., has enlarged its line of initial soaps to include others carrying Walt Disney characters in color for juvenile appeal. Latest of these is a 3-cake "Alice in Wonderland" set, released just ahead of the latest "Alice" film. S. Greenblatt, proprietor, emphasized that the designs and monogram letters are not decalcomanias, but made of special vegetable dyes that will not wash off.

Allen B. Wrisley Co.'s soaps and toiletries department showed a newly designed pastel colored Christmas carton for its "Bath Superbe" soap, also new cartons for "Saddle Club," men's shaving set, the "Ballet Girl" cologne and powder set, and other brands. Among other items featured was "Surex" deodorant soap containing "G-11" for general toilet use. Gus Kopan, Paul Litkowski and James Bond constituted the sales staff on duty. In another exhibit space Wrisley's private brands division presented its services for the first time at this trade event, with A. R. Sergeant in charge.

Alfred D. McKelvy Co., New York, had a new after shave lotion, "Groom Stick," in solid form and a new "Hook and Lather" bath and shower set, with a convenient hole through the soap cake, making it possible to "Hang Up the Soap to Dry." In the Seaforth line of men's toiletries a new spray deodorant took its place along with the familiar shaving soaps, lotions, talc, and cologne. Sales representatives on hand included W. B. Magee, Jr., R. Doran and J. Zimmatore.

Amole, Inc., Tipp City, O., a wholly owned subsidiary of the Davies-Young Soap Co., exhibited a complete line of lotions, creams, shampoos, etc., manufactured under private label for department stores, barber and beauty shops. Ken Mabee, sales manager, called attention to the ceramic labels, burned into the glass containers, which Amole is featuring.

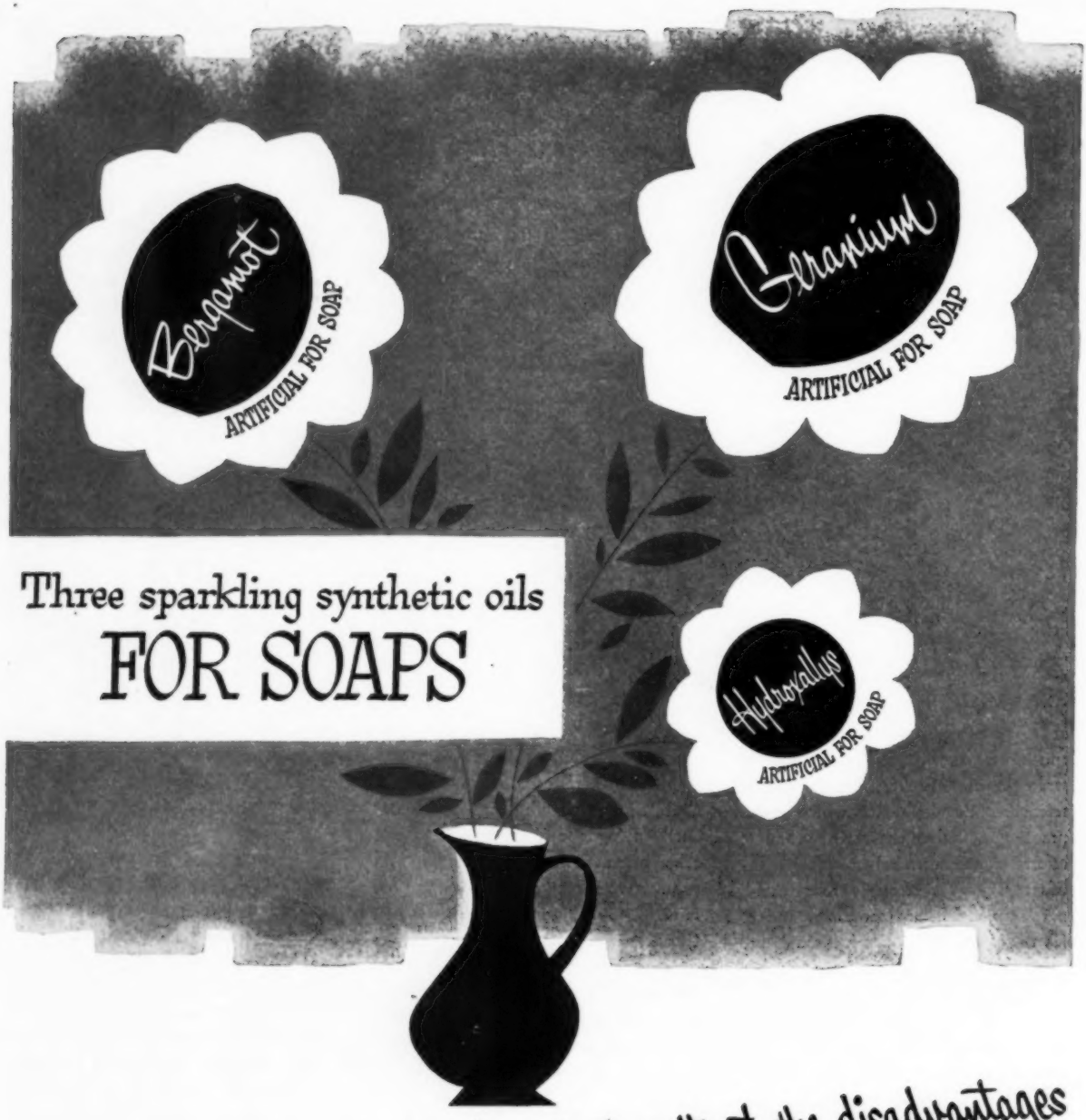
Sharing space in the room with Amole, Inc., was Roycemore Toiletries, with the proprietor, J. E. Griswold, on hand to present his varied line of bath and juvenile soaps, manufactured by Wolf Creek Soap Co., Dayton, O. Of particular interest was one soap "train" for children, whose design won a first prize in a recent national competition conducted by the Paper Box Mfrs. Association.

Yardley of London, Inc., New York, displayed a "Bride's Box" containing an assortment of 25 toilet articles with a foot-square mirror in the lid and a price tag of $47.50. Other more moderately priced gift sets were also shown along with the company's familiar "Lavender" toiletries, oatmeal soaps, a new brushless shaving cream and other items. Salesmen on duty included Kenneth Lancaster, Chas. Macauley and Clare D. Pierdon.

Trylon Products Corp., Chicago, made their first showing of a new "Ivory Top" line of four bath oils in different fragrances, packaged in glass containers with jumbo size white plastic tops, that double as measuring cups. Trylon underarm deodorant pads were new items shown with the full line of Trylon bubble bath tablets and powders. O. A. Barke, president of the company, supervised the presentation.

Hewitt Soap Co., Dayton, O., had a mass display of "Kensington" soap for toilet and bath, also "Omnibus" soap for men and women, a brand which was inherited from the old James S. Kirk operations. Competing for attention with these old timers was a newly designed "Lavender and Old Lace" gift package of Hewitt soaps and "Chex," a deodorant toilet and bathcake with "G-11." Hewitt's "Blue Label" line of laundry flakes and granules for light washing of sheer fabrics occupied space in the exhibit,

(*Turn to Page 73*)



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Washability of Waxed Floors

By R. B. Trusler*
Davies-Young Soap Co.

IN A PREVIOUS report (1.), it was mentioned that some detergents were appraised for their ability to remove soil from asphalt tile test areas. One synthetic detergent and three commonly used liquid soaps were selected as representative cleaners to be used in the next part of this program. Other detergents could be added to the test, but to do so would greatly increase the number of tests.

The problem, assigned to the Scientific Committee of Soap, Detergents and Sanitary Chemicals Division (Chemical Specialties Manufacturers Assn.) is that of washing waxed asphalt tile flooring, and to determine under what conditions the waxed surfaces can be cleaned without removing the wax and also under what conditions the wax can be removed without damaging the asphalt tile.

Because asphalt tile† had been commended to the subcommittee, it was chosen accordingly for the tests, and these gave some interesting but not anticipated results. Preliminary tests were made (first) by dividing the surfaces of eight tiles into quarters, by drawing pencil lines so that four equal squares were marked on each block, on the traffic or right side, and (second) by waxing each quarter block separately with one brand of wax. The waxing for this part of the experiment was done by means of swatches of cotton. After the tiles had dried at room temperature for forty-eight hours, they were washed. The detergent solutions used for these washing operations were water solutions of 1% of the following:—

I A non-ionic phenoxy polyalkanol
II Neutral soya oil, potassium soap
III Same soap plus 2% T.S.P.
IV Same soap plus 2% pine oil

Each tile was washed with only one of the above solutions. In this way all of the eight waxes were subjected to the four detergent solutions. The procedure was (1) wash the tile on a flat surface with a large swatch of cotton (weighing about three grams) which was saturated with the detergent solution. The wet cotton was rubbed vigorously in an irregular pattern over the surface of the tile for one minute, (2) rinse with distilled water, (3) drain and allow to dry and then, (4) stand for 24 hours before the next washing test was made. The tiles were measured for gloss with the assumption that a reduction of the gloss, to a figure approaching the original luster of the tile before waxing, would indicate that the wax had been removed by washing.

The results were not significant and showed that gloss of these tiles could not be taken as an indication of wax remaining on them. The reasons for this are (1) manufacturing process. In this case the wax coating had greater resistance to the action of the washing solution than the applied waxes. The mechanical action of washing appears to have a slight polishing action, causing the surface to increase slightly in luster. (2) Some bright drying waxes effect so little change in the gloss of prewaxed tile that it is difficult to tell how much, if any, of the wax has been removed during the washing tests.

It was concluded that dull, unwaxed tile would have to be used if any information was to be gained from this procedure. Since no unwaxed tile was at hand, and since it is not seemingly possible to remove the factory coat without ruining the tile, another approach to the problem was undertaken.

* Before a joint meeting of the Waxes and Floor Finishes Scientific Committee and the Soap, Detergents & Sanitary Chemical Products Scientific Committee at the 37th mid-year meeting, Chemical Specialties Manufacturers Assn., Chicago, April 29, 1951.

† Supplied by D. E. Hillier, The Johns-Manville Products Corp.

(1.) C.S.M.A. Bulletin 14-15, 1950 Committee Reports to C.S.M.A. Board of Governors, mailed January 30, 1951.



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TABLE I
Gloss Readings of Waxed Linoleum Tiles

WAX SAMPLE			A		B		C		D		E		F		G		H	
Gloss before washing			(1) 2.1	(2) 7.5	(1) 4.0	(2) 17.0	(1) 3.1	(2) 19.0	(1) 2.1	(2) 9.5	(1) 2.2	(2) 9.8	(1) 2.4	(2) 6.0	(1) 1.9	(2) 4.8	(1) 2.8	(2) 9.7
Washed with Sol. #1	Number of washes	1	2.0		7.1		6.1		4.0		3.0		5.1		2.1		4.0	
		2	1.8	2.1	5.6	7.0	5.1	6.9	3.8	5.0	2.2	3.0	4.2	5.8	1.4	2.1	2.0	3.2
		3	2.0	3.0	7.2	7.8	5.8	6.9	4.2	5.6	3.1	3.2	5.1	7.1	2.1	3.0	2.7	3.5
Sol. #2		1	2.0		5.8		4.8		4.0		3.2		5.1		1.8		2.5	
		2	1.8	2.0	5.2	6.0	3.4	4.5	3.2	5.1	3.1	3.2	3.8	5.8	1.6	2.2	2.1	2.9
		3	2.1	2.8	5.2	6.8	4.2	4.6	4.9	6.2	3.2	3.9	5.0	6.0	2.1	2.8	3.0	3.9
Sol. #3		1	1.7		2.0		2.2		2.0		2.2		1.9		1.8		2.0	
		2	1.6	1.8	1.7	2.2	1.7	3.5	2.2	4.1	1.2	2.0	1.7	2.2	1.4	2.3	1.8	3.0
		3	1.9	2.8	1.7	2.5	1.7	3.2	2.3	3.8	1.8	2.2	1.9	2.5	2.2	3.6	1.8	2.8
Sol. #4		1	1.7		6.3		4.0		3.1		1.9		4.1		1.9		1.8	
		2	1.6	1.9	5.2	6.3	3.5	4.6	3.1	4.0	1.9	2.1	3.7	4.0	1.6	2.0	1.8	2.2
		3	1.8	2.6	5.0	6.6	4.2	4.8	3.1	4.0	2.2	3.1	4.2	7.2	2.0	2.5	2.0	3.0

(1) Before polishing
(2) After polishing

The linoleum tiles that were selected by the Wax Committee (C. S. M. A.) for wax coating purposes are six inch squares, and are black and unwaxed. While it is not likely that they might be affected differently than asphalt tile during prolonged washing tests, this situation seemingly does not interfere with their use for the wash resistance and wash-off tests upon wax coating. If the wax washes off, the test is over, and if the wax doesn't wash off, the tile is presumably protected. Furthermore, the very dull surface of these linoleum blocks is ideal for detecting any wax upon the surface. The gloss readings of these linoleum blocks of 1.6 to 1.7 (referred to black glass as 96% gloss) proved to be almost ideal.

A few preliminary trials furnished information that resulted in choosing a plan for this study. Four linoleum squares were coated with 0.3 ml each of wax by distributing the liquid over the surface by means of a soft (not porous) rubber roller 4 inches wide. Some practice was required to accomplish a quick and reasonably uniform distribution. The squares were allowed to dry and remain at room temperature (about 25 to 27° C.) for 24 hours, then a second coat of the same wax emulsion was similarly applied and this was allowed to dry during 48 hours before washing tests were begun. The total dry wax applied to the six inch square of linoleum was about 0.072 grams. This was equivalent to 0.288 grams per square foot.

In a like manner, a total of eight wax emulsions were each applied to four black linoleum squares and simultaneously made ready for the washing tests. This made a total of 32 tiles that were involved in a treatment at one time. The waxes used for these tests were obtained from retail stores.

The gloss of each waxed tile was determined, using a Photo-Volt "Reflectometer" adjusted for 60° specular gloss. Then a portion of the tile was polished to the point of maximum gloss by means of a new piece of flannel cloth, and the readings for gloss were again determined. This was done as a result of experience as the polished surface gave additional information that will be explained later.

The same detergent solutions were used upon the waxed linoleum tiles as were applied to the asphalt tiles. One tile, representing one wax, always was washed with the same solution. In this manner, one brand of wax was subjected to a series of washings with one kind of cleaning solution.

The complete set of tiles was washed, rinsed, drained for thirty minutes and then allowed to dry and stand flat with the treated side up for 24 hours, before a similar complete cycle was run again. The tiles were washed three successive times. Following the second and third washing tests, the gloss of the tiles was read before and after polishing.

The data are shown in Table I.

These data contain some interesting information. For example, no one of the eight waxes contributed even a reasonably high gloss to dull linoleum. Buffing was required to acquire a lustrous finish. Much of the gloss obtained by buffing was retained during subsequent washing, in respect to certain of the detergents. These washing tests did reveal information we were seeking—namely, that some detergents remove but little wax while others are good wax removers. (These statements refer to wax coatings obtained from wax emulsions). There is some evidence that the dual addition of pine oil and an alkaline salt produces a more energetic wax remover than Solution #3. Such combinations can well be an object of study for the purpose of making the best wax remover, keeping in mind of course, that no injury must be sustained by the tile. Conversely, detergents are available that do not harm a good wax excessively. A wax such as "A," Table I, would not be termed a good wax by any user and, of course, it would fail to meet the wash resistance tests included in a number of specifications.

It is equally objectionable to have a wax that cannot be removed by washing since the build-up or accumulation of wax in portions of a floor not subjected to wear cannot be re-

(*Continued on Page 53*)

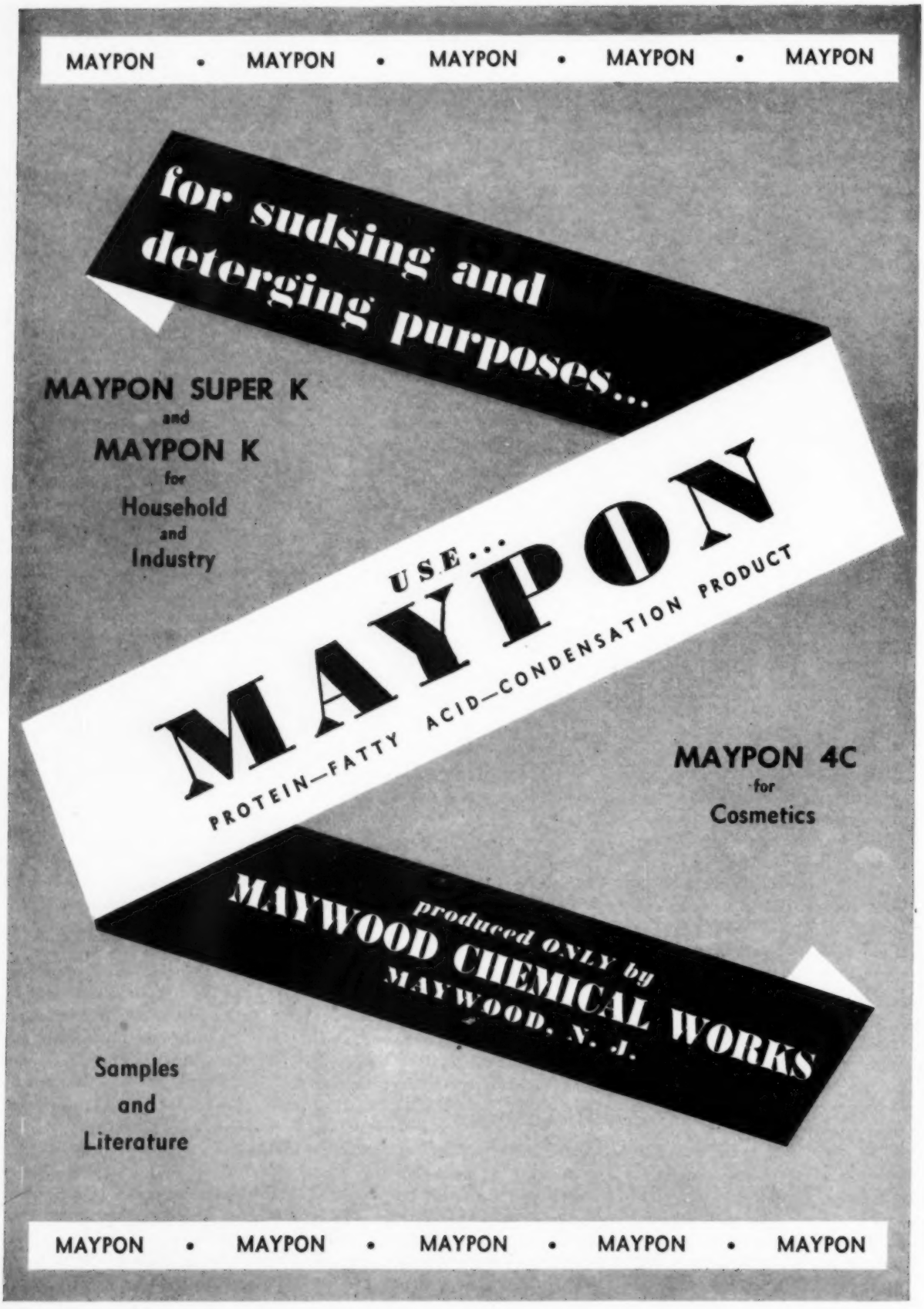

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TABLE II
Gloss of Washed Linoleum Tiles

Type of Detergent	*No. 1*		*No. 2*		*No. 3*		*No. 4*	
Original Gloss	1.7		1.8		1.8		1.8	
Gloss After Washing	(1) 2.0	(2) 2.9	(1) 2.8	(2) 3.0	(1) 1.7	(2) 2.9	(1) 2.0	(2) 2.8

(1) Unpolished after washing
(2) Polished after washing

moved.

It is to be noted from this table that in numerous instances the luster of the tiles, both unpolished and polished areas, was somewhat improved, compared with the second washing. A reduction of gloss would be expected with each successive washing. What happens is that the washing operation contributes a polishing effect, even to unwaxed tile. When each of four unwaxed linoleum tiles were given four successive washings, in the manner previously used, they were improved in luster without wax, and this gain was obvious to the eye. Glossmeter readings are given in Table II.

The data in Table II bring out a condition not immediately obvious and one that could be objectionable. Supposing that repeated washings of a waxed surface would remove some ingredients of the wax film that would subsequently leave the wax deposit unremovable at some later time? Supposing that floors waxed with emulsions B, C, D & F finally reached a state necessitating cleaning off to the underlying tile; is this possible?

In this instance it was, as proved by tiles C, D & F washed with detergent solution No. 1. These were washed once with Solution III with the result that most of the wax was removed, as indicated by the gloss readings. (See Table III).

There are many problems left for further study. Among these are (1) a surface suitable for making washing tests, (2) a means for extending the range of the reflectometer scale so that better differentiation between small deflections can be read in the range of zero to 20, (3) how many washings should a wax sustain before it is destroyed in order to be good, (4) different approach to washing durability so that other characteristics of the wax may be learned, (5) and what are the variations in detergents that may be satisfactory in every way. These are some of the problems remaining for the Committee to work upon and doubtless, there are more.

Textile Detergents

(*From Page* 38)

be used in the plant. Such conditions as water to goods ratio, mechanical action, time of contact with detergent solution, rinsing, type of fabric, and many other things all must be taken into account. Depending on the particular operation some of these factors may be of more or less importance.

Let us take the problem of evaluating a detergent for the scouring of raw wool. There is no problem in obtaining a reasonable supply of the raw wool which will be treated in the plant. To duplicate, however, the actual conditions whereby the raw wool is agitated and kept in the different bowls for particular lengths of time, and then rinsed under particular conditions, is obviously a problem which is difficult to set up in the laboratory. It can be done, and has been done, by what amounts to a miniature scouring train. Whether or not the bowls consist of glass tanks or of wooden tanks is not of importance. The time sequence, the temperature, and the other factors are of the essence.

The other extreme is the use of detergents in scouring out skeins of cotton yarn. In evaluating detergents for this process, it is not too difficult to set up in the laboratory, very quickly and easily, conditions of temperature, time and agitation, closely related to those obtained in the plant. Many other specific operations such as soaping off vats and napthols, scouring rayon and cotton in rope form, and many operations where detergents are required can be simulated in the laboratory with fairly simple equipment. In doing this, the careful evaluation of the factors involved and the decision as to which factors are important, and which are not, is something calling on the ingenuity of the technician. But this type of evaluation has proved much more practical than chemical analysis, wetting tests, or standard soiled cloth detergency tests.

(*To be concluded*)

TABLE III
Subsequent Removal of Wax by Washing

Tile Number	*C (I)*		*D (I)*		*F (I)*	
	(1)	(2)	(1)	(2)	(1)	(2)
Gloss After Washing with Solution I	5.8	6.9	4.2	5.6	5.1	7.1
Gloss After Washing with Solution III	2.2	3.0	1.9	2.7	2.0	2.1

(1) Unpolished after washing
(2) Polished after washing

Healy in Red Cross Post

Robert E. Healy, vice-president in charge of advertising for Colgate-Palmolive-Peet Co., Jersey City, N. J., volunteered recently to serve as coordinator of the Advertising Council's campaign for the American National Red Cross. He is in charge of a special emergency council campaign to raise five million dollars in two weeks to help rehabilitate flood victims in Oklahoma, Kansas, Missouri and Illinois. He will also serve as coordinator of the council's 1952 fund raising campaign.

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TRADE NEWS

Barowsky Joins Drew

Seymour I. Barowsky, formerly associated with Adell Chemical Co. of Holyoke, Mass., was recently appointed manager of the chemical specialties division of E. F. Drew & Co., New York. A graduate of the University of Vermont, with a Ph. B. degree, he has had experience in the laundry and dry cleaning industries. He served in the Armed Forces during World War II for four years. Mr. Barowsky is responsible for the sale and service of the complete line of Drew products for launderers and dry cleaners. These include: "Buff", "Bearksyn", "Napso", and other Drew detergents; Drew soap products, "Drisyn" and similar products for dry cleaning establishments.



SEYMOUR I. BAROWSKY

Lever Employees Vote

Members of the American Federation of Labor's International Chemical Workers union employed at the Los Angeles plant of Lever Brothers Co., New York, recently voted at a special meeting to set aside their union's contract with the company and formally entered their consent to a collective bargaining election at the plant. The union agreed to such an election, its representatives said, because it believed such action would settle a jurisdictional dispute between it and a CIO union.

The National Labor Relations Board set September 6 as the date for the affected Lever employees to choose whether the AFL union or the CIO United Gas, Coke and Chemical Workers is to represent them.

Shulton Post to Murphy

James W. Murphy, formerly a sales representative for the firm, was recently appointed manager of the New England sales division of Shulton, Inc., New York, with headquarters in Boston.

Katherine Gray Is Sold

Katherine Gray, Granby, Col., soap company was taken over recently by George Knox and Associates of Oklahoma City. The company name has been changed to Katherine Gray of Colorado and the firm has been moved from Granby to Colorado Springs. The firm will continue to concentrate on its personalized soaps, but plans are being made for expanding the business in several directions, according to George Knox.

New in Oronite Posts

The appointment of Dr. W. E. Elwell as manager of eastern product development, with headquarters in New York, was announced recently by Oronite Chemical Co., subsidiary of Standard Oil Co. of California, San Francisco. He was formerly supervisor of chemical products for California Research Corp., another Standard subsidiary.

Another Oronite change announced at the same time is the transfer of R. E. Echols to the company's technical staff in San Francisco from the California research laboratories in Richmond, Calif.

Cosmeticians Hear Sanders

Dr. Herbert L. Sanders, technical director of Ninol Laboratories, Chicago, presented a paper, "Rating the Surfactants" at the Sept. 11 dinner meeting of the Chicago chapter of the Society of Cosmetic Chemists at Henrici's Restaurant in the Merchandise Mart, Chicago. The paper by Dr. Sanders, who is chairman of the Soaps, Detergents and Sanitary Chemical Products Division of the Chemical Specialties Manufacturers Assn., is a companion piece to one presented at the June meeting on the subject of emulsifiers. Dr. Sanders received his doctorate at McGill University, Montreal, and has specialized since 1945 in the field of surface active agents.



DR. H. L. SANDERS

Woodbury One Cent Sale

A one cent sale to introduce its new beauty cream ingredient is currently being promoted on behalf of "Woodbury" soap, it was announced recently by John H. Woodbury, Inc., Cincinnati. Three regular size cakes at the usual price, plus a fourth for one cent more, are being offered. The deal is being promoted by newspaper advertising in major metropolitan markets for an unspecified but limited time.

Limits Glycerine Exports

India recently announced it was limiting exports of refined glycerine to hard currency countries from July to December. An export quota of 450 tons has been established for the period.

Strike Halts C-P-P Output

Production of soap, synthetic detergents and toiletries halted at the Jersey City, N. J., plant of Colgate-Palmolive-Peet Co., Aug. 22, when 1200 production employees refused to cross picket lines set up at the entrances by 41 striking salesmen. The salesmen went out after having negotiated with the company since July 5. Earlier 31 of the company's 41 salesmen voted in a National Labor Relations Board election to have as its representative Local 153 of the Office Employees International Union, A.F.L. The picket lines also kept away from the plant truck drivers and maintenance and construction workers who were erecting a new building for Colgate.

The union claimed the company refused to recognize seniority rights in layoffs or to grant a union security clause in a proposed contract. In a statement issued by Robert E. Healy, vice-president in charge of advertising and signed by E. H. Little, president, who was reported to be away until Sept. 10, it was stated that "the strike by these soap salesmen is over the issue of requiring retail soap salesmen to become members of the union as a condition of permanent employment as salesmen with the company." Mr. Little's statement added: "It is the company's firm conviction that this requirement would be detrimental to the sales organization and also to the company by placing it at a competitive disadvantage."

Pennsalt Advances Hoffman

Don D. Hoffman was recently appointed field sales manager of the specialty sales division of Pennsylvania Salt Manufacturing Co., Philadelphia. He has been with the company since 1939, when he joined the sales staff of the laundry and dry cleaning department. He subsequently became southeastern district sales manager for the department in 1943, and in 1946 was brought to the Philadelphia office as



DON D. HOFFMAN

assistant manager of sales. He attended Fresno State College and Northwestern University. Pennsalt's specialties sales division comprises a complete selling organization handling such products as dairy sanitizers and cleaners in the B-K line; all laundry and dry cleaning products, building and shop maintenance chemicals and cleaners; household and garden insecticides under the "Knox Out" label, lye and similar specialties.

Witham to General Foods

Stephen A. Witham, formerly of Lever Brothers Co., New York, recently joined General Foods Corp., New York, as assistant director of market research. He succeeds G. S. Brady, who recently was named director of market research.

Draper Soap in Bankruptcy

Draper Soap Co., Providence, R. I., was petitioned recently into involuntary bankruptcy in Federal District Court by three alleged creditors. The petitioners are Orbis Products Co., New York; Joseph P. Ryan, Westfield, N. J. and John A. Turcotte, Lowell, Mass.

P&G Representative Dies

Lyne S. Smith, 79, retired sales representative of Procter & Gamble Co., Cincinnati for 35 years, died recently in Erie, Pa., where he made his home. Mr. Smith retired in 1934.

Monarch Names Merchants

Monarch Cleaning Chemicals, Inc., Minneapolis, recently announced the appointment of Merchants Chemical Co., New York, as distributor for its line of products from Merchants' branches in Milwaukee, Chicago, Denver, Omaha and Cincinnati. Monarch produces milk plant and dairy hygiene products.

ADM Advances Three

Appointment of Stanley A. Thompson as manager of the special oils technical service department for Archer-Daniels-Midland Co., Minneapolis, was announced recently by S. O. Sorensen, vice-president in charge of research. Other changes at A-D-M include placing of Floyd Nelson in charge of the company's sales service laboratory and Robert Jerabek in charge of the product evaluation laboratory.

New Detergent Plant

Construction of a new synthetic detergents plant will start shortly at Doe Run, Meade County, Ky., it was announced recently by General Aniline & Film Corp., New York. The new plant, which will be about 25 miles from Louisville, will augment the company's present synthetic detergent production at its Grasselli, N. J., plant. General Aniline & Film has acquired a 100 acre site for the new Kentucky plant, adjacent to a recently completed plant of Mathieson Hydrocarbon Chemical Corp., which will supply raw materials for the new General Aniline unit. The new synthetic detergent plant will be equipped for continuous processing, similar to that under development at the Grasselli plant. Buildings of the Kentucky unit will be comparatively small, according to the company, with the plant consisting mainly of outdoor piping, pump and reactor facilities. Not more than 15 or 20 persons are to be employed at one time for the present, although the company has under consideration expansion plans. No estimate as to the cost of the plant was given, although it was said to exceed a million dollars.

Controllers Elect Soapers

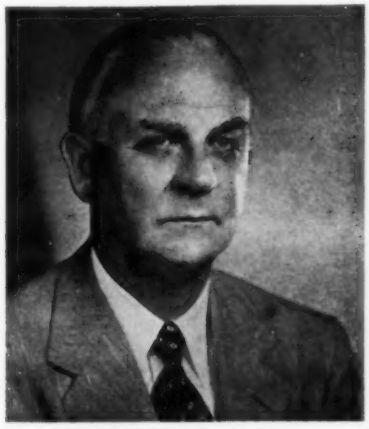
R. J. McGinley, assistant treasurer of Procter & Gamble Company of Canada, Ltd., Toronto, was elected



R. J. McGINLEY

recently as president of the Toronto Control of the Controllers Institute.

Other officers chosen by local Controls include Rudoph W. Sandburg, controller of Andrew Jergens Co., Cincinnati, who was elected president of that city's Control. Frank R. Dinwiddie of Hewitt Soap Co., Dayton, was named a director of the



RUDOLPH W. SANDBURG

Institute's Dayton Control. The Institute, which was established in 1931, is a non-profit organization of controllers and finance officers from all lines of business.

Hack to AASGP Board

Philip J. Hack, vice-president of Tennessee Soap Co., Memphis, was recently elected as a member of the



PHILIP J. HACK

board of directors of the Association of American Soap & Glycerine Producers. He fills the unexpired term of Selden Humphreys, president of Tennessee Soap Co., who died June 2. Mr. Hack serves until May, 1952.

Utility Warehouse Burns

A portion of the plant of Utility Co., New York, manufacturers of "GreSolvent" was destroyed by fire in the early morning of Aug. 16. The building destroyed was used for the storage of raw materials. The loss is fully covered by insurance. All manufacturing facilities are undamaged and the plant has resumed operations, according to David C. Stutts, executive vice-president. Offers of help were received from several competitors and suppliers immediately after the fire, according to Mr. Stutts. The firm has occupied its present quarters since 1907.

Marines Honor Hicks

T. E. Hicks, vice president of Armour & Co., in charge of the Armour Laboratories in Chicago, and a lieutenant colonel in the Marine Corps Reserve, was decorated with the Legion of Merit medal in a ceremony at the laboratories' office at 520 N. Michigan Avenue, last month. The decoration, conferred by Brig. Gen. Clayton C. Jerome of the Marine Corps, was in recognition of Col. Hicks' contribution to success of the island hopping campaign which cleared South Pacific areas of Japanese enemies eight years ago. Distinguished military men and a Marine color guard participated in the ceremony.

West All-Purpose Cleaner

A new all-purpose cleaner, that is said to combine the advantages of an all vegetable oil soap with those of a synthetic detergent and an alkaline polyphosphate water softener, is now being marketed by West Disinfecting Co., Long Island City, N. Y. New "West All-Purpose Cleaner" is designed for practically any cleansing operation, including scrubbing, mopping and washing all types of floors, woodwork, painted walls, windows and comparable surfaces. It is being promoted for use by schools, clubs, hotels, restaurants and similar institutions. Recommended use dilutions run from as little as one part of cleanser to 45 parts of water (3 ounces per gallon). Higher concentrations, such as 16 ounces per gallon of water for cleaning particularly dirty floors, are said not to harm floor surfaces. In hard water, the manufacturer said the product can be diluted 10 to one without clouding or loss of foaming or detergency properties.

Lever Shifts Peterson

A. B. Peterson, formerly assistant general sales manager of the Pepsodent Division of Lever Brothers Co., New York, was recently named merchandising manager in charge of "Rayve" products and all new products of the Pepsodent division.

Gillette Bill Hearings

Hearings on a bill designed to bring soap under the Food, Drug and Cosmetic Act, introduced in the U. S. Senate by Sen. Guy M. Gillette of Iowa, were scheduled to be held Sept. 11. The hearings on the bill, S. 345 have been called by the subcommittee of the Senate committee on Labor and Public Welfare. Sen. Herbert M. Lehman of New York is chairman of the subcommittee and was to preside at the hearings. The bill would amend section 201 (1) of the Food, Drug and Cosmetic Act by eliminating the exemption of soap from the definition of a cosmetic and adding a subsection to section 602 which would require soap and detergent labels to bear common or usual name of the products and a list of its ingredients.

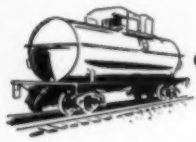
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Second Quarter Soap Sales Off

SOAP and synthetic detergent sales in the second quarter of 1951 declined sharply from the relatively high level of the first three months of the year, according to figures released recently by the Association of American Soap & Glycerine Producers, Inc., New York. Total other than liquid soap sales for the first six months of 1951 were only slightly under the comparable totals for 1950, and sales of synthetic detergents and liquid soaps in the first half of this year exceeded those for the first six months of 1950.

Total other than liquid soap sales (wholesale) in the second quarter of 1951 amounted to 409,663,000 pounds, valued at $91,671,000, as compared with 694,962,000 pounds, worth $152,615,000 in the first quarter of this year. For the first six months of 1951 total other than liquid soap sales were put at 1,104,625,000 pounds, valued at $244,286,000, as against 1,117,310,000 pounds, worth $199,783,000 in the first half of 1950.

Second quarter ('51) liquid soap totals were put at 1,393,000 gallons, worth $2,001,000 as compared with 1,522,000 gallons, valued at $1,938,000 in the first three months of 1951. Totals for the second quarter of 1950 amounted to 995,000 gallons worth $1,296,000.

Sales of synthetic detergents reported by 37 manufacturers for second quarter of 1951 amounted to 277,927,000 pounds, worth $64,846,000, a decline from the first three months of this year when sales were 333,601,000 pounds, worth $81,076,000. The second quarter 1951 synthetic detergent total, however, exceeds that of a year ago, when sales were 253,617,000 pounds, valued at $49,342,000. The liquid synthetic detergent total for the second quarter of 1951 was more than double that of the second three months of 1950, but was down from the first quarter of this year.

Blum Soap Co. Fire

Blum Soap Co., Buffalo, N. Y., was damaged during a fire Aug. 9 which swept the four-story structure occupied by the soap firm. Morris Blum is the operator of the company.

C-P-P Half Earnings Down

A drop in its net income and earnings for the first six months of 1951, as compared with the comparable period of 1950, was reported recently by Colgate-Palmolive-Peet Co., Jersey City, N. J. For the first half of this year the company reported a net income of $3,465,000, equal to $1.55 per common share, as against $5,619,000, or $2.70 per share for the 1950 half. Domestic net sales for the six months ended June 30, 1951 were $120,905,000, as compared with $95,087,000 in 1950. For the three months ended June 30, domestic sales were $48,180,000 in 1951 and $45,199,000 in 1950. World-wide sales, including sales of foreign subsidiaries not consolidated, amounted to $183,218,000 for the first half and $78,194,000 for the second quarter of 1951. In the corresponding periods of 1950, world-wide sales were $139,644,000, and $67,630,000, respectively.

Oakite Sets Up Ball Award

The establishment of the David C. Ball Award for Distinguished Service, a bronze plaque to be presented annually to the member of the company's technical field organization who has rendered the most outstanding service to industry during the year was announced recently by John A. Carter, president of Oakite Products, Inc., New York. The award is designed to perpetuate the memory of David Clifton Ball, founder of the company and chairman of its board at the time of his death in March of this year. From the earliest beginnings of the Oakite organization in 1909, Mr. Ball insisted upon maintaining the principles of service which today characterize the work of the company's field service organization throughout industry, according to the announcement of the award.



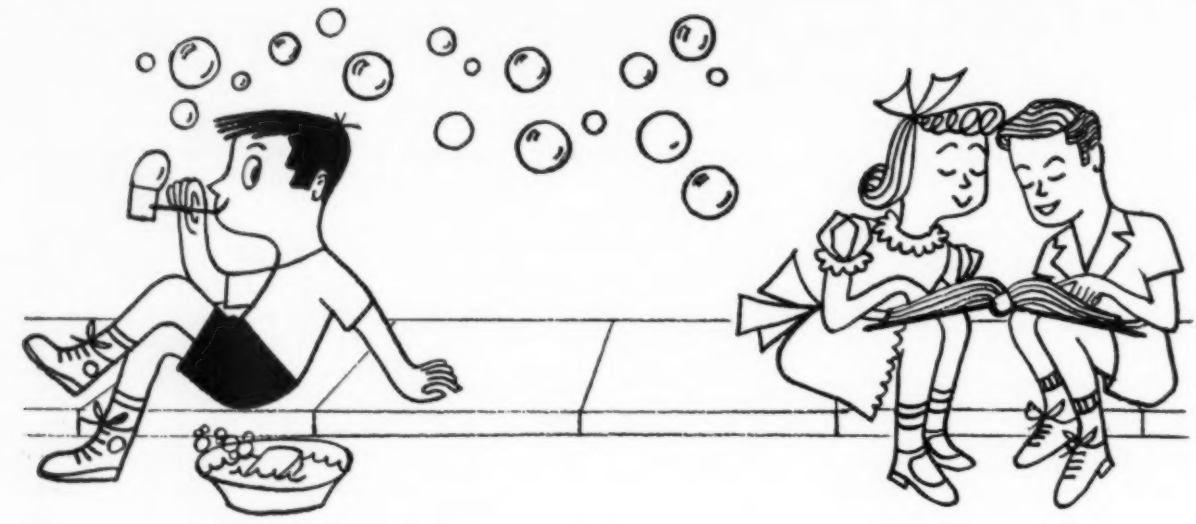
Detergent Distributors

The appointment of 12 companies to distribute synthetic detergents and detergent promoters made by Wyandotte Chemicals Corp., Wyandotte, Mich., was announced recently by Walter L. Rippeteau, manager of organic chemicals sales. The solvents and chemicals group is distributing the various grades of "Kreelon" (synthetic detergent) and "Carbose" (carboxymethyl cellulose) and like products throughout the midwest.

Effective now all grades of the above products are available from: Buffalo Solvents & Chemicals Corp., Buffalo, N. Y.; Central Solvents & Chemicals Co., Chicago; Amsco Solvents & Chemicals Co., Cincinnati; Western Solvents & Chemicals Co., Detroit and Toledo; Ohio Solvents & Chemicals Co., Cleveland; Hoosier Solvents & Chemicals Corp., Indianapolis and Fort Wayne, Ind.; Wolverine Solvents & Chemicals Co., Grand Rapids, Mich; Texas Solvents & Chemicals Co., Houston; Wisconsin Chemicals & Solvents Corp., Milwaukee; Missouri Solvents & Chemicals Co., St. Louis.

Packwood Advances Reilley

John T. Reilley, formerly a salesman in the Chicago office, was recently appointed manager of the central division of G. H. Packwood Manufacturing Co., St. Louis manufacturers of industrial skin cleansers, degreasers and other industrial cleaning compounds.





There is nothing like a Givaudan fragrance!

Givaudan soap fragrances have remarkable persuasive powers. That fact has been demonstrated again and again in many best selling soaps. These fragrances are the result of careful study of consumer likes and a thorough understanding of soap scenting problems. Let them help *you* sell more soap.

For further information, write to **Givaudan-Delawanna, Inc.**
330 West 42nd Street, New York 18, New York

New at Wyandotte

Paul W. Blume, formerly secretary and director of development at Michigan Chemical Co., has joined the



PAUL W. BLUME

market development staff of Wyandotte Chemicals, Corp., it was announced recently by Dr. T. H. Vaughn, vice-president of the research development division. Mr. Blume is a chemical engineering graduate of Ohio State University. His previous experience includes research and market development work with petroleum chemicals, insecticides and general organic chemicals.

Two others who have recently joined Wyandotte are James R. Taylor, who is conducting development of specialized cleaners for the aircraft and automotive equipment industries, and Dr. Donald E. Trucker. The latter recently completed work for a Ph. D. at Polytechnic Institute of Brooklyn. He is working on the synthesis of organic compounds and surfactant development. Prior to going with Wyandotte, Mr. Taylor was chief chemist at Norton Air Base, where he dealt with chemical processes important to aircraft overhaul.

Heyden Chemical Moves

Heyden Chemical Corp. recently signed a lease for the entire 16th floor in the Canadian Pacific Building, 342 Madison Ave., New York. The new space is to be used for executive offices now located at 393 Seventh Ave. and also as headquarters for the sales office of its subsidiary, American Plastics Corp., and the Heyden medical department located at 225 W. 34th St. The new offices at 342 Madison Ave. are also being used as headquarters for the company's market development, technical sales and advertising departments now located at the company's Garfield, N. J., division.

Improves "Super-Mafos"

Production of new and improved "Super-Mafos" detergent-sanitizer briquets is now under way, it was announced recently by "J" Chemical Works, New York. Purchase from Mathieson Chemical Corp., Baltimore, of exclusive rights for the manufacture and distribution of "Super-Mafos" was announced last month. "J" Chemical Works claims to have improved the formula, combining six different sanitizing chemicals in the two-pound molded, pink briquets. These are placed in a dispenser through which water from the dish washing spray flows, slowly dissolving the briquet. The product contains a water softening agent, which the maker claims makes the product as effective in hard as in soft water.

The new "Super-Mafos" is packaged in cartons containing 30 two-pound briquets and 12 pounds of two-ounce "starting charge" tablets. Starter tablets are also available separately in 40-pound cartons. A new sales policy has been developed for the product, by which it is sold direct to local distributors from the manufacturer. There are to be no regional jobbers. Inquiries for distributorships are being sought, according to Mel Rosenberg, sales manager.



Two Join Westvaco

W. R. Kulow, formerly associated with the textile department of Monsanto Chemical Co., St. Louis, in



W. R. KULOW H. D. ROBINSON

New York, recently was named assistant divisional sales manager of the phosphates division of Westvaco Chemical Division, Food Machinery and Chemical Corp., New York. At one time he had been a member of the New York sales staff of Stauffer Chemical Co.

At the same time it was announced that H. D. Robinson has been appointed assistant divisional sales manager of the alkali division, with headquarters in New York. Mr. Robinson was formerly assistant manager, chemical sales division of Charles Pfizer and Co., Brooklyn. Earlier he had been with the New York sales division of Dow Chemical Co., Midland, Mich.

Oakite Holds Get Together

A cocktail party at the Hotel Astor, followed by dinner at the Latin Quarter, both New York, were the highlights of the pre-fall get together of Oakite Products, Inc., New York, Aug. 27. The affair, for which Frank A. Conolly, manager of the package division, was host was given for the firm's brokers from all parts of the U. S.

P&G Man to Blaw-Knox

Paul F. Steinhoff, formerly of Procter & Gamble Co., Cincinnati, recently was named senior engineer in the process engineering department of the chemical plants division of Blaw-Knox Co., Pittsburgh. He has had 10 years experience in chemical and process engineering. Mr. Steinhoff is a chemical engineering graduate of the Missouri School of Mines.

DRYMET*

THE ECONOMICAL DETERGENT SILICATE

Cowles DRYMET, anhydrous sodium metasilicate, is the most highly concentrated form of sodium metasilicate available. It is more economical to use, on the basis of both Na_2O (alkalinity) and SiO_2 (silicate) than any other type of hydrated or anhydrous detergent silicate, either compounded or by itself. DRYMET contains no water of crystallization.

CRYSTAMET*

THE MEDIUM pH DETERGENT SILICATE

Cowles CRYSTAMET is a pure, perfectly white, free-flowing granular pentahydrate sodium metasilicate with the normal 42% water of crystallization. Suggested for compounding when it is desirable to lower the concentration of a finished product. Readily soluble—chemically stable—easy to handle. Can be used on medium pH jobs.

DRYORTH*

THE HEAVY-DUTY DETERGENT SILICATE

Cowles DRYORTH, anhydrous sodium orthosilicate, is a powerful, speedy, heavy-duty cleaner with valuable penetrating and wetting-out properties, reinforced dirt-removing power and unusual emulsifying action. It is an anhydrous, free-flowing powdered silicate containing not less than 60% Na_2O, which may also be used as an economical constituent of high pH cleaning compounds.

DRYSEQ*

THE ALL-PURPOSE DETERGENT SILICATE

Cowles DRYSEQ, anhydrous sodium sesquisilicate, is a medium pH alkaline cleaner which will do fast, dependable work at a low cost to the user. It is a white, free-flowing powder, quickly and completely soluble in hot or cold water—containing 56.75% Na_2O—making it an economical base material for compounding.

Cowles CHEMICALS

We'll be glad to send you our DRYMET File Folder containing complete technical information and suggested formulations.

*Reg. U. S. Pat. Off.

COWLES CHEMICAL COMPANY

7018 Euclid Avenue • Cleveland 3, Ohio

Soap Profits Rise, F.T.C. Report Shows

A COMPARATIVE study of prewar and post-war profit rates in the soap industry and 24 others was published recently by the Federal Trade Commission, Washington, D. C. The report is the fourth in a series submitted to Congress by the Commission, each comparing prewar and post-war rates of return, after taxes, for more than 500 identical corporations in 25 "narrowly defined and homogeneous" manufacturing industries. The report also shows changes in profit rates during the four-year period 1947-50.

The soap, cleaning and polishing preparations industry showed a higher profit rate in 1950 than in 1940, according to the report. The eight firms in the soap, cleaning and polishing preparations industry for which figures are computed had an average rate of return after taxes in 1940 of 17.5 percent, as compared with 23.7 percent in 1950. The percentage in 1949 was 6.6, which made the 1950-'49 comparative change the most striking for any industry.

The report also points out that in the postwar period, the profit rates of the larger firms (the four largest corporations in each industry) "were generally higher than those of the smaller corporations covered in the report." This was true in the soap industry. The soap industry was among those exhibiting the same general relationship between the four largest and the other companies in the postwar period as in the prewar period.

In 1947, the soap, cleaning and polishing preparations industry had a rate of return after taxes of 22.9 percent. This declined to 18.2 percent in 1948, falling further to 6.6 percent in 1949.

Rates of return shown in the report were, for the most part, computed on the average investment as of the beginning and end of each year. The stockholders' investment consisted of the capital stock outstanding, paid-in or other capital surplus, earned surplus, minority interest in capital stock and surplus, and surplus reserves, less reported appreciation. The net income represents the profit after deducting all normal and regular costs and expenses and Federal income taxes. Complete copies of the report may be obtained from the Commission without charge while the supply lasts.

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Award to Detergent Firm

Monco Chemical Co., East St. Louis teen-ager managed liquid detergent manufacturing firm, was chosen recently to receive the Fourth Annual Chemistry Products Award of the Junior Achievement group. The award was based on the selection of Monco by the editors of *Chemical and Engineering News* who acted as judges. The company is sponsored by Monsanto Chemical Co., St. Louis, and manufactures a liquid dishwashing detergent, a window-cleaning preparation and an anti-fog cloth for the prevention of window steaming. The award is to be presented some time this fall at a dinner of the St. Louis Section of the American Chemical Society. The award consists of an engraved plaque.

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Mrs. C. A. Lautz Dies

Mrs. Carl A. Lautz, widow of the president of the old Lautz Soap Company in Buffalo, died Aug. 1. Soaps made by her husband's firm were known and used in many homes in Buffalo and western New York.

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Soap Controllers to Meet

A special industry conference of controllers of companies in the soap, cosmetic and drug fields will be held in conjunction with the 20th annual meeting of the Controllers Institute at the Waldorf-Astoria Hotel, New York, Sept. 30-Oct. 3. Robert L. MacKenzie, controller of E. R. Squibb & Sons, Brooklyn, will preside at the special industry conference of controllers of the soap, cosmetics and drug firms.

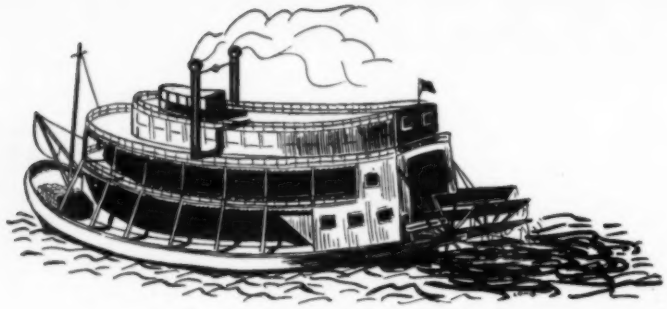
New Essential Oil Plant

Neumann-Buslee & Wolfe, Inc., Chicago essential oil, perfume compounds and related products manufacturers, are now located in their own new building at 5600 Northwest Highway, Chicago 31, it has just been announced. The building embodies the latest in equipment and straight line operation, greatly expanding the company's production of aromatics, flavors and citrus concentrates. Sufficient adjoining space has been purchased to enable further plant expansion and development.

The firm was founded in 1920 by John H. Neumann, John Buslee and J. Emmett Wolfe at 325 No. Sheldon St., Chicago, later moving to 224 W. Huron St. In 1934, Mr. Wolfe retired followed 10 years later by Mr. Neumann. Present officers and directors of the firm are John Buslee, president and treasurer; Nicholas A. Kern, secretary and J. B. Kielhofer, assistant treasurer. Mr. Buslee began his career in the essential oil industry with M. L. Barrett & Co. in 1900. He was one of the pioneers in the introduction of certified food colors after the passage of the Food and Drug Law in 1906, working for National Aniline and Chemical Co. until 1920.

New home of Neumann-Buslee & Wolfe.





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Oleo Stearine
Lard Oil
Neatsfoot Oil
Grease
Tallow
Lanolin

FATTY ACIDS

Red Oil
Tall Oil
Tallow
Stearic Acid
Hydrogenated Fatty Acid
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ALKALIES

Caustic Soda, Solid, Liquid, and Flake
Soda Ash, Light and Dense
Carbonate of Potash, calcined and hydrated
Calcium Chloride
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Tetra Pyro Phosphate
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METSO* DETERGENTS—55, 66, 99.

MAYPONS—Unique surface active agents; prolific foam; high detergency and emulsifying powders; suitable for cosmetic and industrial use.

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Purex Extending "Trend" Distribution

SALES of "Trend" detergent, made by Purex Corp., South Gate, Calif., are currently estimated at 23 per cent of the total light synthetic volume of the U. S., according to William Neal, general sales manager of Purex. He recently described the product as one of the largest selling dishwashing products in the U. S. Although sales are said to represent about one-quarter of the light duty synthetic detergent market, the product is distributed in only 40 percent of the population area of the U. S.

The detergent is being introduced in major marketing areas with full page advertisements in newspapers and in spot television advertising. One of the most recent campaigns was in the Ohio market. This promotion followed closely highly successful introductory campaigns in the Chicago and Michigan marketing areas. Part of this introductory sales effort included a large scale advertising campaign, plus an introductory one-cent sale. The product is sold primarily as a dishwashing detergent and all advertising emphasizes "Trend's" fast grease-cutting power.

The detergent was first introduced in the San Diego, Calif., market in 1947. Distribution later was expanded to the entire Pacific Coast region and now the marketing of the product is moving eastward.

In a recent advertisement in the *Detroit Free Press*, Purex used a full page headed "Thank You, Detroit, For Approving Trend". Another large headline read "Trend Wins Housewives' Vote in 'Compare' Test". The advertisement, made up to resemble the front page of a newspaper, carried illustrations of housewives and stories of what they are reported to have said about the product. A chart purporting to show the consumer preference for "Trend" for dishwashing, grease cutting and skin mildness of "Trend" was shown. An advertisement stressing the one cent introductory offer was also featured. Other "front page stories" told of the reaction of users to "Trend" for various types of washing.

Australian Soap Use Up

Toilet soap consumption is on the increase in Australia, according to figures released recently by the Office of Education in Sydney. In 1938-39, the average Australian used 2.05 pounds of toilet soap, whereas the present rate is 3.8 pounds, a 55 percent increase in a period of slightly over 10 years.

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Arnold, Hoffman Remodel

The formal opening of the newly renovated office and laboratory building of Arnold, Hoffman & Co., at 55 Canal Street, Providence, R. I., took place at an open house celebration Aug. 2. Remodeling of the 105 year old building housing the Arnold, Hoffman offices and laboratory involved combining two buildings into one, putting up a new street floor front, installing new windows and erecting new brick walls. The exterior and the interior of the building have been completely altered. Old-fashioned wide board flooring has been covered with asphalt tile or carpeting; masonry walls have been refinished; and office and laboratory walls have been painted restful colors.

The old building provided storage and shipping facilities, whereas the new structure is taken over almost completely by offices and laboratory. The ground floor plan includes a reception room, the president's office, administrative offices, accounting departments, filing and mailing operations, receiving department and Providence sales offices and purchasing department. Other officers and department heads are on the second floor, at the rear of which are located the sales service laboratory and other laboratory facilities. Except for the library and a supply storage room, the third floor is devoted to research and development laboratories, and a new cafeteria for the staff.

A section of the Arnold-Hoffman research laboratory.



◆

Breck Names Miss Gardner

Elizabeth Gardner was appointed recently as coordinator of merchandising services for John H. Breck, Inc., of Springfield, Mass., with headquarters in New York.

◆

Taxes Cut P&G Earnings

A reduction in its net income to $51,280,231, equal to $5.31 a share on the common stock, for the fiscal year ended June 30, 1951, from net earnings of $61,092,079, or $6.33 a share, in the previous fiscal year, was reported recently by Procter & Gamble Co., Cincinnati. Although its gross earnings ($63,019,013) and unit volume for the fiscal year ended June 30, 1951 were the largest of any year in the history of the company, earnings were lower than in the previous fiscal year because of higher taxes. Use of the last-in-first-out inventory system was said to have minimized the effects of inventory gains or losses in periods of increasing or declining prices. For this reason, the need was ended for a reserve against inventory price declines. The balance of inventory reserve consequently has been transferred to earned surplus.

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ESSENTIAL OILS, AROMATIC CHEMICALS AND PERFUME BASES

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Two Oakite Contests

Two 90-day contests with merchandise and cash prizes for consumers and grocers were announced recently by Oakite Products, Inc., New York. They are running from September 10 to December 10, 1951. The consumer contest, which features as prizes fur coats, Tiffany silver, radio-television - phonograph combinations, luggage, golf clubs, refrigerator-freezers and other electrical appliances, will be won by the persons submitting what are judged to be the best 50 or more word letters on why they like the new handisqueeze pouring spout on the Oakite package, or why they prefer "Oakite" for fall cleaning. The top of an Oakite package must accompany the letter.

Two thousand dollars in cash is being awarded to the 175 grocers winning the Oakite mass display contest. First prize is $250, second is $200, third $150, fourth $125, fifth $75, sixth to seventy-fifth, $10 each, and 76th to 175th $5 each.

Fleuroma Relocates

Fleuroma, Inc., essential oils and aromatic chemicals firm, recently moved from 73 Sullivan St., New York, to 38 W. 21 St., New York 10, N. Y. The firm's new telephone number is Chelsea 3-8525.

Soap Fat Use Drops in June

Reported consumption of primary fats and oils for soap declined in June, as compared with May, according to figures released recently by the Bureau of the Census of the U. S. Department of Commerce. In June, 118,464,000 pounds of primary fats and oils were reported used for soap, as against 137,000,000 in May. In June, 45,955,000 pounds of inedible tallow, 14,325,000 pounds of refined inedible tallow and 27,555,000 pounds of grease were reported consumed for soap. In May, 50,015,000 pounds of inedible tallow, 16,902,000 pounds of refined inedible tallow and 33,627,000 pounds of grease were reported so used. Consumption of crude and refined coconut oil was put at 7,952,000 pounds and 7,471,000 pounds, respectively in June, as against 9,916,000 pounds of the crude and 7,458,000 pounds of the refined in May. The total of miscellaneous vegetable oils used but not shown separately was 2,043,000 pounds in June and 2,377,000 pounds in May.

Lever Elects Moore

The election of J. Warren Moore as assistant treasurer of Lever



J. WARREN MOORE

Brothers Co., New York, was announced recently. He was previously with Eastern Air Lines, where he was assistant treasurer and director since 1941. A graduate of Dartmouth, he has also been with Smith, Barney and Co. and North American Aviation.

Premium Assn. to Meet

The national convention of the Premium Advertising Association of America will be held at the Hotel Astor, New York, Sept. 17-20.

Handle D&R Canada Sales

The appointment of Wood, Fingard, Eaton Co., Ltd., Toronto, Canada, to handle all sales for Daggett and Ramsdell (Canada), Ltd., was announced recently by Daggett & Ramsdell, Inc., Newark, N. J.

P&S Advances Blank

Albert C. Blank, a member of the dryer division sales department of Proctor & Schwartz, Inc., Philadelphia, was recently named assistant sales manager. He has been in sales work with the firm since 1934. A graduate of Drexel Institute of Technology, he joined Proctor & Schwartz in 1929. In his new post, Mr. Blank is responsible for developing sales planning. He is assisting Myron T. Fleming, vice-president in charge of dryer sales.

At the same time it was announced that the company had set up a defense projects engineering group. Members of this unit have been selected from the sales engineering department, functioning under the guidance of Mr. Blank. The purpose of the group is to make Proctor & Schwartz engineers available to confer with engineers, physicists and technicians of the various armed services, as well as with representatives of companies having defense contracts to determine how best to integrate the company's development, engineering and manufacturing facilities.

Statistical and technical projects of common interest to the fatty acids industry were discussed at a joint committee meeting of the Fatty Acid Section, Association of American Soap & Glycerine Producers, Inc., held in Chicago on August 7. Seated at the table (clockwise from left) are: K. K. Boyd, Emery Industries, Inc.; R. P. O'Rourke, Woburn Chemical Co.; E. S. Pattison, Manager, Fatty Acid Section, Soap Assn.; John Schnitzer, Woburn Chemical Co.; Stanley Goranflo, Wilson-Martin Div., Wilson & Co.; Felix E. Lacy, Swift & Co.; Dale U. Stingley, Armour & Co.; E. H. Blumen, W. C. Hardesty Co., Inc.; Frank C. Haas, Archer-Daniels-Midland Co.; S. K. Plasman, Armour & Co.; Lee F. Church, Emery Industries, Inc.; D. H. Wheeler, General Mills, Inc.; A. W. Schubert, Emery Industries, Inc.; Sewell Andrews, General Mills, Inc.



A Bedtime Story for Very Junior Chemists



Once upon a time, there lived a sad little Sodium CarboxyMethylCellulose. He worked very hard extending Soaps and improving Synthetics. But all the Soaps called him a "war baby." And he wasn't allowed to associate with any but Low Grade Synthetic Detergents.



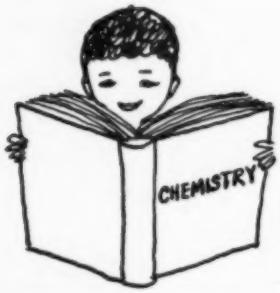
So he ran away. And arrived one day on the Doorstep of a Corporation in Wyandotte, Michigan. The Corporation picked him up and handed him over to the Research and Development Division. Well, you should see what they did for this little "war baby"!



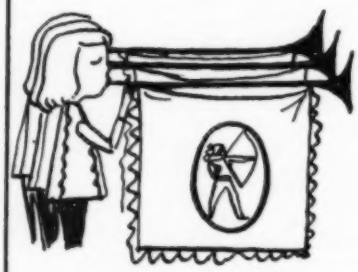
They changed his length and Molecular Structure. They Manufactured him by a brand new Process. They let him associate with High Grade Synthetic Detergents. And then they gave him a name . . . "Carbose*." *Reg. U. S. Pat. Off.



Carbose might have been very happy—but the Soaps still put on airs. "No matter how hard you and those Synthetics try," the Soaps told him, "nothing cleans as well as Soap."



But he worked hard just the same. He practiced Soil Removing and Whiteness Retaining and all the other things a detergency promoter should. And one great day, the Research and Development Division called the Soaps and Synthetics together and read a Proclamation:



"Synthetic Detergent products can be formulated with Carbose which will yield detergency equal to that of High Grade Soaps under conditions favorable to Soap, and far superior to High Grade Soaps under conditions unfavorable to Soap."



"Carbose!" Why, they were talking about him! Carbose was a hero! Yes, it was a great triumph for him . . . but Carbose went on . . . had a large family and did many more things . . . in textiles, paper, paints, ceramics, petroleum . . . and even in soap!

Soda Ash • Caustic Soda • Bicarbonate of Soda • Calcium Carbonate • Calcium Chloride • Chlorine • Hydrogen • Dry Ice Synthetic Detergents • Glycols • Carbose (Sodium CMC) • Ethylene Dichloride Propylene Dichloride • Aromatic Sulfonic Acid Derivatives • Other Organic and Inorganic Chemicals

WYANDOTTE CHEMICALS CORPORATION
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Wyandotte
REG. U. S. PAT. OFF.

So if you are looking for a chemical with applications involving viscosity regulation, colloid stabilization, surface finishing, or detergency, why not write to us about Carbose?

Lee Lynch Back on the Job

Lee Lynch, southern representative for Davies-Young Soap Co., Dayton, who headquarters in Atlanta, is now back on the job after an illness of over six months. Lee is reported completely recovered following a serious sickness.

Soap Prices Cut Again

Wholesale soap price cuts ranging from 3.6 to 5.5 percent were announced in mid-August by Lever Brothers Co., New York, Colgate-Palmolive-Peet Co., Jersey City, N. J., and Procter & Gamble Co., Cincinnati. This was the second series of soap price reductions announced in as many months. Although lower raw material costs was given as the reason for the reductions, the price of tallow rose anywhere from a cent to 1⅜ cents on the day the price cuts were announced. Fancy tallow is now quoted at 10⅛ cents a pound in tank cars delivered in New York.

Lever reduced prices on its major soap products 3.6 to 5.5 percent. "Rinso," "Silver Dust," "Breeze," "Surf" and "Lux Flakes" were dropped in price 3.6 percent; "Lux" and "Lifebuoy" toilet soaps were cut 4.5 percent, and "Swan" bar laundry soap was reduced 5.5 percent.

Colgate - Palmolive - Peet Co. lowered prices on its line of toilet soaps, packaged soaps and detergents by approximately 3½ to 4½ percent.

Procter & Gamble's principal household soap products were cut in price by about four percent.

Other new tallow prices are 9¾ cents for the extra grade; 8¾ cents for the special; choice white grease is 9¾ cents; yellow is eight cents and house is 7¾ cents a pound, all on a carload basis delivered in New York. Fancy tallow was reported to have been sold at the same time to dealers and exporters at 11⅛ cents a pound, New York basis.

Hanser Cuts Soap Prices

Among soap makers who have announced reductions in the wholesale prices of their soaps is John Hanser Soap Co., Milwaukee, maker of chip soaps. This firm has cut the wholesale price of its five-pound package by about five cents, according to a recent announcement of John Dilges, a representative of the company.

Natl. Aniline Ups Minnis

Dr. Wesley Minnis, assistant director of research for National Aniline Division of Allied Chemical & Dye Corp., in Buffalo, N. Y., was transferred recently to New York headquarters as director of research for the division. He succeeds Walter M. Ralph, who has been made assistant to the president of the division. No one has been named as yet to replace Dr. Minnis.



DR. MINNIS



W. M. RALPH

Perry Products to Move

Perry Equipment Corp., Philadelphia, has recently announced plans to move late in August to new quarters at 1421 North 6th St., Philadelphia. The firm is preparing also to expand its production facilities.

Boston Bims Golf Finale

The final golf outing of the 1951 season of the Bims of Boston will be held at Nashua Country Club, Nashua, N. H., Wednesday, Sept. 12.

Prize winners of the Aug. 16 golf tournament held at Woodland Golf Club, Auburndale, Mass., included: James P. Kelley, Pacquin Co.; Robert B. Seth, Boston Chemical Products Co.; Thomas J. Conlon, Dow Chemical Co.; Donald Bush, Firmenish & Co.; Joseph J. Flanagan, Potter Drug & Chemical Co.; A. William Dehle, Boston Chemical Products Co.; F. J. Hailer, Jr., Whittaker, Clark & Daniels Co.; E. M. Wright, and Robert A. Armstrong, Goldschmidt Chemical Corp. About 40 members and guests were on hand for the affair.

Soaps vs. Synthetics

The comparative merits of soaps versus synthetic detergents in commercial laundries are discussed in the summer, 1951, number of *The Laundry Bundle*, external house magazine of Pennsylvania Salt Manufacturing Co., Philadelphia. The article, reprinted from *American Laundry Digest*, was written by L. J. Armstrong and B. E. Marsh of Armour & Co., Chicago. The authors report on the results of tests evaluating soaps and synthetic detergents in soil removal, whiteness retention and tensile strength. Also discussed in the article are practical operation factors and current economic aspects. The article concludes that there are many jobs which synthetics can perform better than soap, but that the institutional laundry will profit by the continued use of soap.

Bruns New A-H Treasurer

Harry G. Bruns, for six years trust officer of the Industrial Trust Co., Providence, R. I., was named recently as treasurer of Arnold, Hoffman & Co., Providence, American affiliate of Imperial Chemical Industries, Ltd., of Great Britain. Mr. Bruns succeeds Edwin H. Arnold, president of Arnold, Hoffman as treasurer. Formerly assistant trust officer of Manufacturers Trust Co., New York, Mr. Bruns is a member of the New York bar, is a graduate of Columbia University, where he received a B.S. degree and St. John's University Law School with a B.L. degree. He also earned a doctor of science and jurisprudence degree from St. John's University Graduate School of Law.

Engelhardt Globe Sales Hd.

The appointment of Joseph B. Engelhardt as sales manager of Globe Chemical Co., Cincinnati, was announced recently. He was formerly with the Grasselli chemical department of E. I. du Pont de Nemours & Co., in Cincinnati and the midwest. Globe, which has branches in Cincinnati and Dayton, is a producer and distributor of chemical specialties and industrial chemicals.



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a wise choice

PQ soluble silicates

Performance-wise: With synthetic detergents as well as with soap, PQ Soluble Silicates not only improve detergency but prevent the re-deposition of soil. Solid dirts are deflocculated so that they are removed and rinsed away.*

Profit-wise: Besides improving detergent power, PQ Soluble Silicates help to increase profits. Basically low in cost, they are the most effective means of producing better cleaning compounds at a minimum price.

The addition of silicates to synthetics depends on a number of factors; special silicates are necessary. We shall be glad to discuss the right silicate for spray dried methods or mixtures prepared in other ways. Choose PQ.

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1831 – 120th Anniversary – 1951

*"Detergent Properties of Alkyl Aryl Sulfonate-Builder Mixtures". From "Industrial and Engineering Chemistry", Vol. 42, May 1950. (Reprint on request.)

Lever Man Joins Agency

William J. Luedke recently resigned as product manager of the Pepsodent division of Lever Brothers Co., New York, to join the plans and merchandising division of N. W. Ayer & Son, Inc., Philadelphia. Before joining Lever, he had been vice-president in charge of advertising and sales promotion for O-Cedar Corp., Chicago.

New Mills for Palm Oil

Modern mills are reported being built in French West Africa to increase the palm oil yield of 80,000 tons annually, produced by using primitive presses and crushers.

Chem. Salesmen Golf

Montclair (N. J.) Golf Club, on September 11, was to have been the scene of the concluding golf outing of the 1951 season of the Chemical Salesmen's Association of the American Chemical Industry.

Prize winners at the Aug. 14th tournament at Nassau Country Club, Glen Cove, N. Y., were:

Low Gross: Flight A, J. C. Abeles, Faesy & Besthoff; B, Ira Vanderwater, R. W. Greeff & Co.; C, C. Heathcote, Monsanto Chemical Co.; 2nd Low Gross: Flight A, Edward Bush, Bush Aromatics Div., Dow Chemical Co.; B, M. Reznick, New York Laboratory Supply Co.; C, D. Calo, Niagara Alkali Co.; Low Net: Flight A, J. B. Eakins, J. S. & W. R. Eakins; B, J. Duffy, Joseph Turner & Co.; C, J. McGinty, Millmaster Chemical Co.; 2nd Low Net, Flight A, S. Eysmann, Cellufilm Corp.; B, M. Eydenburg, Rosenthal-Bercow Co., C, J. J. Gilroy, Riches-Nelson Co.; Kicker, Flight A, R. W. Daniels, Calco Chemical Division, American Cyanamid Co.; B, George Wright, E. I. du Pont de Nemours & Co.; C, J. Wallace, Scientific Glass Co.; Longest Drive, R. Brown; Nearest Pin, A. C. Wu, Wah Chang Corp.; Guests: Low Gross, R. Solenger, Maltbie Labs.; 2nd Low Gross, M. H. Dennos, Schenectady Varnish Co.; Low Net, Kent Vanderhoff, Kay Fries Chemical Co.; 2nd Low Net, J. Langille, Millmaster Chemical Co.; Kickers, M. Auerbach.

Mills to Baker & Bro.

William W. Mills, one of the incorporators and a director of Irving R. Boody & Co., New York, until his resignation this year, recently joined H. J. Baker & Bro., New York. A specialist in vegetable oils and fats, he was with Balfour Guthrie, New York, from 1921 until 1925, when he went with Irving R. Boody, a former business associate, who had organized his own company in 1923. In 1948, he



WILLIAM W. MILLS

was elected as executive vice-president, having served previously as treasurer and vice-president on imports.

Award for Soybean Plant

General Mills, Inc., Minneapolis, recently awarded an additional contract to the chemical plants division of Blaw-Knox Co., Pittsburgh, to increase the project already being handled by the contractor for a 250 tons-per-day soybean processing plant to be located at Rossford, O. Included in the new award are a boiler house, lecithin building, service building and auxiliary equipment.

Lever Appoints Bennett

Charles F. Bennett recently was appointed assistant merchandising manager for Lever Brothers Co., New York. He is handling the merchandising of "Rinso" and "Spry."

Muller to Southern Alkali

Appointment of William J. Muller as export manager of Southern Alkali Corp., a wholly owned subsidiary of Pittsburgh Plate Glass Co., Pittsburgh, was announced recently by W. I. Galliher, vice-president. A native of Brooklyn, Mr. Muller was treasurer of the U. S. Alkali Export Assn. prior to joining Southern Alkali. His headquarters are at 30 Rockefeller Plaza, New York.

New D&O Offices

The opening of sales offices in Baltimore and Minneapolis, and the appointment of a new member of the Chicago sales staff were announced recently by Dodge & Olcott, Inc., New York. William Peacock, formerly a member of the company's Philadelphia sales force has taken over the Baltimore territory and office which is located in the Mathieson Building, at Baltimore and Light Sts. The Minneapolis representative, a newcomer to the D&O sales staff, is William Arko, a graduate of Ohio University and a veteran of 26 months Naval service. His territory includes all of Minnesota and part of Wisconsin.

At the same time, D&O announced that Andrew Damko has joined its Chicago sales staff. He is specializing in flavors.

Shell Names Lawler

L. V. Steck, marketing vice-president of Shell Chemical Corp., New York, announced recently the appointment of J. J. Lawler as manager of its Chicago district office, and J. K. Robbins, Jr., as manager of the St. Louis office.

Brunkow Joins Hardesty

Dr. O. R. Brunkow, formerly general sales manager for Commercial Solvents Corp., New York, was recently appointed sales manager of Hardesty Chemical Co., New York.

Hardesty Appoints Long

W. C. Hardesty Co., Inc., New York, recently announced the appointment of George F. Long to its textile sales engineering staff. Mr. Long was formerly associated with Swift & Co., as district sales manager in New England.

Shaving Cream for Women

A new liquid shaving cream for women, marketed under the trade name, "SoFair," was announced recently by Chap Stick Co., Lynchburg, W. Va. The initial promotion, timed to coincide with the summer season, when many women go stockingless, was backed with advertising in newspapers and magazines.



A NORDA ORIGINAL is the favorite of a good many people. They like it because it is different.

It will make *your products* different. A NORDA ORIGINAL is a distinguished union of well-loved, old-fashioned fragrance with a sophisticated bouquet of today. The union appeals to women.

Give your colognes, toilet waters, soaps, and cosmetics complete distinction. Make them matchlessly yours—with A NORDA ORIGINAL.

Send to Norda, *first ever to talk sales scents,* for convincing samples of this smell that will sell your new products.

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Solvay Makes Executive Changes

THE following executive appointments were announced recently by the Solvay Sales Division, Allied Chemical & Dye Corp., New York. Lester B. Gordon was appointed vice-president; Denman Peniston was named director of sales; and John H. Elleman was made assistant director of sales.



LESTER B. GORDON



DENMAN PENISTON

Lester B. Gordon is a veteran of 36 years of continuous service with the Solvay Sales Division and its predecessor companies. A native of Chicago, he began his chemical industry work in 1915 as a salesman in that territory. Mr. Gordon has successively held posts as Solvay Chicago branch manager, divisional sales manager, western sales manager, assistant director of sales and, for the past four years, director of sales.

Denman Peniston, a native New Jerseyan, began work as an office boy in the predecessor of the present Solvay Sales Division 41 years ago. Since that time, he has served as a salesman, assistant manager and later manager of the New York branch and, for the past four years, he has served as assistant director of sales. Mr. Peniston has long been active in chemical industry affairs in the Metropolitan New York area and currently is serving on the board of directors of the Salesman's Association of the American Chemical Industry.

Colonel John Elleman is a native of Indiana and was first employed by the Solvay Process Division in 1935 as an engineer in its technical service section. He received his engineering education at Purdue University and the United States Military Academy at West Point. Following his graduation from West Point, he served for several years in the Army Corps of Engineers. After leaving the army, he entered the heavy construction field and later the Indiana State Highway Department which he left to join Solvay. Col. Elleman in 1941 transferred to the Solvay Sales Division as a field technical advisor in the calcium chloride department. In 1942, he returned to the Corps of Engineers, U. S. Army to serve as District Engineer in charge of the Syracuse, N. Y. district. Upon his return to Solvay in 1945, he was appointed sales manager of the calcium chloride department, the post that he is leaving to fill his present appointment.



JOHN ELLEMAN

Cover photo . . .

George A. Wrisley, a third generation Wrisley with the Chicago firm of Allen B. Wrisley Co., which celebrates its 100th anniversary in 11 years, has been in the soap business for 35 years. He is a past president of the Association of American Soap & Glycerine Producers (1947-'48), and currently serves on the board of the Association. He is chairman of the AASGP's publicity and promotion committee. He was chairman of the Cleanliness Promotion Committee of the Soap Association in 1949 and '50.

During World War II he served as chief of the Soap and Glycerine unit of the War Production Board.

In World War I, Mr. Wrisley served as an ensign in the U. S. Navy, interrupting his second year with the firm. When he returned from service, he rejoined the company, becoming plant superintendent in May, 1919.

Soaps at Show

(*From Page* 47)

while a pile of sample cartons for private label soaps and detergents called attention to the private brand operations of this division of Procter & Gamble Co.

Continental Luxuries, Inc., New York, importers of foreign soaps and perfumes had a large display of British soaps and bath luxuries manufactured by the 150-year-old London house of Morny. Of particular interest to visitors was the design of "Week End" guest size cakes, not in flat, rectangular form familiar here, but in convenient oval shape, resembling small birds eggs.

Since this distinctive British design was first placed on the American market, several makers of guest size soaps have adopted the idea, according to W. P. Cowans, president of Continental Luxuries. Other items in the Morny line included bath soap de luxe, scented in Morny's exclusive Chaminade and June roses fragrances, a floral series in bath and toilet sizes, a shaving stick and shaving bowl, also bath tablets, talcum powder and other items.



....and finish fresh, too!

The development of a perfume that will stay fresh and unchanged throughout the shelf-life and use-life of soap products requires the technical know-how of master soap perfumers.

Van Ameringen-Haebler, Inc., will create the *ideal* soap perfume for your product, custom tailored and within your price limits.

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attention to quality in NIALK* chemicals for soap-making and for sanitary chemicals persists even to the selection of containers which will most assuredly safeguard quality in transit.

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Caustic Soda
Caustic Potash
Carbonate of Potash
Paradichlorobenzene

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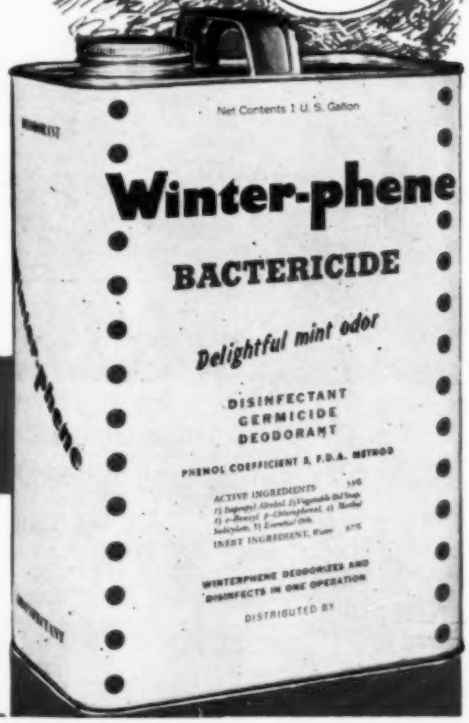
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NIAGATHAL* (Tetrachloro Phthalic Anhydride)



Fragrant, Clean Odor of Fresh

MINT

JAMES Varley & SONS, INC.



Winter-phene — There's a name that'll charm the birds right out of the trees. By birds we refer to those wonderful people known as customers — *your* customers — who are seeking a disinfectant that doesn't *smell* like a "disinfectant". What a magic name — WINTER-PHENE! The name of a beautifully scented mint-odored germicide that practically revolutionized the disinfectant industry! Sure, there are other mint odored products on the market — but there is *only one* WINTER-PHENE — *only one* with the true natural spearmint odor — that sparkles like fine cut emeralds (honestly, it's right out of this world!) — and when you mix WINTER-PHENE with water for general use — what a perfect emulsion! — whiter than fresh-driven snow — stable as the Rock of Gibralter — there is no getting around it, WINTER-PHENE is in a class all of its own!

And now to get around to technical matters. WINTER-PHENE has a Phenol Coefficient of 5 F.D.A. Method. It contains a large quantity of Isopropyl Alcohol which acts as a solvent as well as an antifreeze. Formulated from pure oil of spearmint and peppermint, both U.S.P. grades. Saponified to perfection. Stable emulsions. Marvelous crystal-clear green color—like the Gulf Stream off the Coast of Florida!

Technical or not — your customers will find WINTER-PHENE to be the finest, general-purpose disinfectant they have ever used! — and NO ONE *ever* gets tired of the fresh mint fragrance —

Winter-phene

WRITE TODAY FOR FREE SAMPLE AND PRICES

JAMES VARLEY & SONS, INC.
1200 Switzer Ave., St. Louis 15, Mo.

Please send Free Sample and literature on WINTER-PHENE — the disinfectant with the *Fresh Mint Odor.*

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Triple Victory

IN MACAULAY'S FAMOUS POEM, Horatius stood before the narrow bridge to Rome and saved the city by slaying Lars Porsena's three ablest warriors.

Now, no one's going to write poetry about IONOL® . . . the antioxidant that is proving so successful in essential oils manufacture . . . but there *is* a parallel!

IONOL is a determined fighter against color or odor changes due to oxidation. This tri-substituted hindered phenol maintains the stability of animal, vegetable and mineral oils . . . safeguards the purity of essential oil and fatty acid products.

And a little IONOL goes a long way . . . less than one per cent increases oxidation induction periods *by as much as 275 hours.*

While the demand for IONOL currently exceeds production capacity, it will pay you to give serious consideration to its advantages in your product development planning.

IONOL IS ALREADY IMPROVING THESE:

Pressure sensitive tape • Asphalt and rubber tiles • Drug sundries
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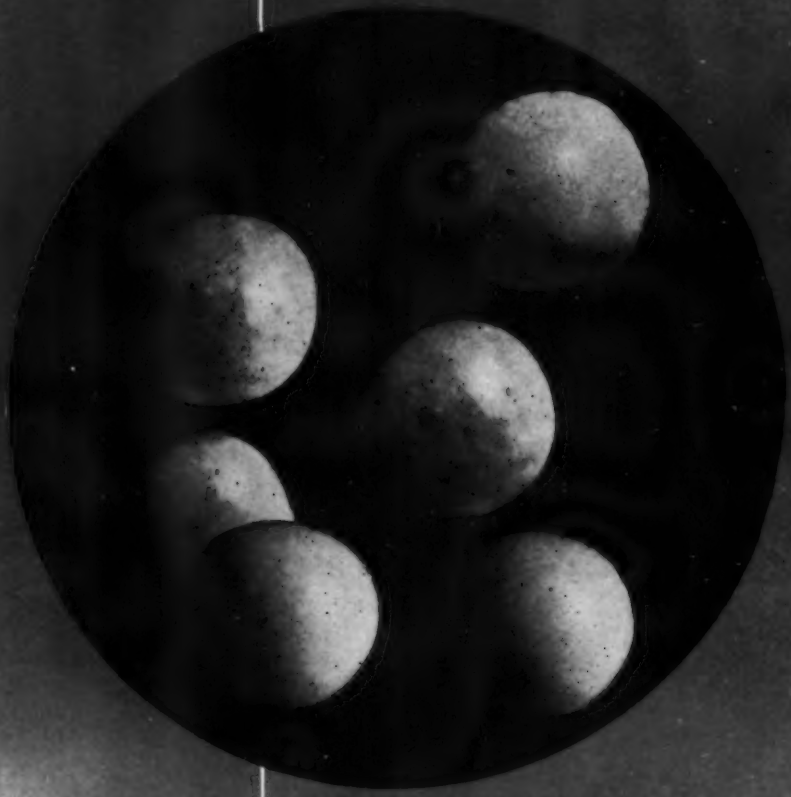
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Photomicrographs prove what you instantly sense when you examine NACCONOL DB and pour it from one container to another . . . these beads are remarkably uniform, amazingly free-flowing and *strong*.

Nacconol DB has a high specific gravity and retains its bead form in normal mixing operations. Dust-free when made, it does not break down in mixing. It produces a "bulky" mixture so desirable for packaged goods.

send for technical bulletin

Our Technical Bulletin #316 gives complete data on the physical strength of Nacconol DB in terms of mechanical mixing operations. Get your copy from our nearest office.

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BIDS AND AWARDS

F.S.S. Wax Bids

The following low bids on an unspecified quantity of wax were received in a recent opening for miscellaneous supplies by the Federal Supply Service, Washington, D. C.: Oil Specialties & Refining Co., Brooklyn, N. Y., item 52-W-467-25, 86.6 cents; 15, 99.4 cents; R. M. Hollingshead Corp., Camden, N. J., item 52-W-467-15, 82 cents; 25, 72 cents; T. F. Washburn Co., Chicago, item 52-W-467-15, $1.07; 25, 97 cents; and National Chemical Research Lab., Chicago, item 52-W-467-15, 81 cents; 25, 69.2 cents.

Vet. Adm. Soap Awards

The following awards on an unspecified quantity of soap were announced for the Veterans Administration, Procurement Division, Washington, D. C., in a recent opening for miscellaneous supplies: Armour & Co., Chicago, $35,268.79; Colgate-Palmolive-Peet Co., Jersey City, $30,588.81; E. F. Drew & Co., New York, $7,623; Fitzpatrick Bros., Chicago, $2,726.47; Hershey Estates, Hershey, Pa., $1,107.80; Iowa Soap Co., Burlington, Ia., $2,581.59; Lee Soap Co., Denver, Col., $1,180.12; Mt. Hood Soap Co., Portland, Ore., $1,353.86; National Milling & Chemical Co., Philadelphia, Pa., $2,701.40; Newell-Gutradt Co., San Francisco, $155.52; Procter & Gamble Co., Ivorydale, O., $8,105.33; Purity Soap & Chemical Co., Minneapolis, $995.74; Swift Soap Co., Memphis, Tenn., $23,015.55; Western Soap & Sales Co., Spokane, Wash., $324.68.

Dishwashing Compound

The awards on an unspecified quantity of dishwashing compound in a recent opening for miscellaneous supplies by the Veterans Administration, Procurement Division, Washington, D. C., went to: Economics Laboratories, St. Paul, Minn., items 2, 4, 7, 10 thru 12, 15, 17, 20, 23 thru 30, 32, 33, 35, 36 thru 172, $54,975.25; Federal Chemical Co., Chicago, items 3, 6, 9, 13 thru 16, $7,198.80; Hans J. Heckman Co., Towson, Md., item 189, $69.21; Warwick Chemical Co., Div. Sun Chemical Corp., Long Island City, N. Y., items 173 thru 237, $7,518.70; Washington Chemicals Sales, Washington, D. C., items 1, 8, 21, 22 and 31, $1,146.60.

Glycerine Award to Armour

The award on unspecified quantity of glycerine in a recent opening for miscellaneous supplies by the Bureau of Engraving and Printing, Washington, D. C., went to the Armour & Co., Chicago, Ill., with a bid of $31.25 per container.

G.P.O. Disinfectant Bids

Bids on three drums of disinfectant (165 gallons) were submitted by the following in a recent opening for miscellaneous supplies by the Government Printing Office, Washington, D. C.: United Sanitary Chemicals Co., New York, 92 cents a gallon; Industrial Distributors, Inc., Chicago, $1.12; Dixie Janitor Supply Co., Washington, D. C., $1.45 a gallon; Harley Soap Co., Philadelphia, $1.09 a gallon; Trio Chemical Works, Inc., Brooklyn, 93 cents a gallon; and West Disinfecting Co., Long Island City, N. Y., $1.35 a gallon.

Misc. Navy Pur. Bids

Low bids on an unspecified quantity of sweeping compound in a recent opening for miscellaneous supplies by the New York Navy Purchasing Office, New York, were submitted by the following: Puritan Mfg. Co., f.o.b. Waterbury, Conn., item a, 2.75 cents; b, 3.6 cents; Paxson Manufacturing Co., f.o.b. Philadelphia, Pa., item a, 2.75 cents; b, 2.4 cents; c, 2.8 cents; Jos. E. Frankle Co., Philadelphia, Pa., item a, 2.8 cents; b, 2.6 cents; c, 3.0 cents f.o.b. Phila.; Sanitary Soap Co., 2.2 cents, f.o.b. Paterson, N. J., item a, 2.35 cents; b, 2.2 cents; c, 2.7 cents; Clean Sweep Manufacturing Co., 1.95 cents f.o.b. Charlotte, N. C., item a, 2.8 cents; b, 2.7 cents; c, 2.5 cents; d, 2.9 cents; and Banner Chemical Products Co., Newark, N. J., item a, 2.5 cents.

Floor Wax Award

The following awards on an unspecified quantity of liquid floor wax were announced by the Federal Supply Service, Washington, D. C., in a recent opening for miscellaneous supplies: Pyrox Chemical Corp., item 1, with a bid of 60 cents; and Trio Chemical Works, Inc., Brooklyn, item 2, with a bid of 57.6 cents.

Non-Foaming Inhibitors

In a recent opening for miscellaneous supplies by the Navy Purchasing Office, New York, the following bids were submitted on an unspecified quantity of non-foaming inhibitors: Octagon Process, Inc., 36.9 cents; Parkin Chemical Co., 33 cents; Heatbath Corp., 1.27; and American Chemical Paint Co., 37.8 cents.

Deodorant Block Bids

Low bids on an unspecified quantity of deodorant blocks in a recent opening for miscellaneous supplies by the Navy Purchasing Office, New York, N. Y., were submitted by the following: Reliable Chemical Co., Passaic, N. J., item a, 22 cents; Puritan Chemical Co., Atlanta, Ga., item a, 23.69 cents; Uncle Sam Chemical Co., New York, item a, 20.05 cents; Bordman Co., Philadelphia, Pa., item a, 24 cents; A.M.R. Chemical Co., Brooklyn, item a, 18.65 cents; Click Chemical Co., Mount Vernon, N. Y., item a, 24 cents; Frank J. Curran, Downers Grove, Ill., item a, 23.85 cents; Allied Block Chem. Co., Pittsburgh, Pa., item a, 23 cents; and Paradize Products Co., Fairview, N. J., item a, 18.59 cents.

Miss Schreiber to Twiss

Miss Carol Schreiber, formerly assistant to the advertising manager of Antara Products Division of General Dyestuff Corp., New York, recently joined the House of J. Hayden Twiss, New York advertising agency.

schimmel

Your liquid soap can smell as

fresh

as a day in May

For clean, fresh odors use a Schimmel aromatic compound in your liquid or concentrated soaps.

We can offer a great variety of compounds and at very economical prices.

Ask for our S price list.



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601 West 26th Street, New York, 1, N. Y.

NEW TRADE MARKS

THE following trade marks are published in compliance with section 13 (a) of the Trade Mark Act of 1946. Notice of opposition must be filed within 30 days of publication and a fee of $25 must accompany each notice of opposition.

Dynium — This for antiseptic and disinfectant preparation. Filed May 19, 1950 by Cook-Waite Laboratories, Inc., New York. Claims use since April 24, 1950.

Deodisol — This for deodorant and disinfectant for use in embalming. Filed Oct. 11, 1950 by Undertakers Supply Co., Chicago. Claims use since July 26, 1950.

Tempo—This for cleaning fluid for duplicating machine stencils, etc. Filed Aug. 2, 1948 by Milo Harding Co., Los Angeles. Claims use since Dec. 1, 1929.

Phillper—This for degreasing compounds. Filed Mar. 3, 1949 by Phillips Manufacturing Co., Chicago. Claims use since Feb. 22, 1949.

Sparkette—This for detergent for laundry use. Filed Mar. 11, 1949 by Pennsylvania Salt Manufacturing Co., Philadelphia. Claims use since Dec. 7, 1948.

Toidet—This for cleaning compound for toilet bowls, etc. Filed June 21, 1949 by Butters Mfg. Co., Boston. Claims use since May 3, 1949.

Di-Aqua—This for penetration or wetting agents for use in detergent compositions. Filed June 21, 1949 by Diamond Alkali Co., Cleveland. Claims use since Dec. 21, 1948.

X Karwash—This for preparation for cleaning automobile bodies. Filed July 9, 1949 by "X" Laboratories, Inc., New York. Claims use since April 18, 1939.

Wins — This for soap. Filed Nov. 4, 1949 by M. Werk Co., St. Bernard, O. Claims use since May 24, 1949.

Calgon—This for metal cleansers and detergents for general use. Filed Nov. 18, 1949 by Calgon, Inc., Pittsburgh. Claims use since July 15, 1947.

Patexol—This for spot remover for dry cleaning. Filed Nov. 25, 1949 by Patek and Co., San Francisco. Claims use since July, 1938.

Cota-Glass — This for solid, powdered and liquid cleaners for glass. Filed Nov. 26, 1949 by John C. Stalfort & Sons, Inc., Baltimore. Claims use since Nov. 25, 1949.

84 — This for hand cleaning compound. Filed Nov. 26, 1949 by Puritan Co., Rochester, N. Y. Claims use since July 11, 1940.

Alro—This for cleaning compositions. Filed Feb. 11, 1950 by Alrose Chemical Co., Cranston, R. I. Claims use since 1947.

Minnehaha Liquid Soap—Filed Apr. 22, 1950 by Ulmer Pharmacal Co., Minneapolis. Claims use since Jan. 1, 1915.

Vividol—This for dry cleaning detergents. Filed Apr. 22, 1950 by Stamford Chemical Co., Stamford, Conn. Claims use since May 2, 1949.

Rayette—This for hair shampoos. Filed May 24, 1950 by Raymond Laboratories, Inc., St. Paul. Claims use since Jan. 4, 1949.

Kilane — This for insecticides. Filed Aug. 21, 1950 by Parsons Chemical Works, Grand Lodge, Mich. Claims use since Jan. 2, 1939.

Traf — This for air deodorizing liquid. Filed Oct. 18, 1950 by Nelson Ideas, Inc., Schenectady, N. Y. Claims use since September, 1949.

Aerene — This for air deodorant. Filed Oct. 24, 1950 by Interstate Sanitation Co., Cincinnati. Claims use since Aug. 24, 1950.

Wha-San — This for disinfectant. Filed Oct. 24, 1950 by Whalen Chemical Co., Hamilton, Ill. Claims use since Aug. 30, 1950.

White House — This for floor, furniture and automobile wax. Filed Mar. 27, 1948 by Cussins and Fearn Co., Columbus, O. Claims use since Feb. 1, 1948.

Silver-Sheets — This for polishing sheet made of paper containing a cleansing agent for cleaning metal surfaces. Filed Jan. 14, 1950 by Munising Paper Co., Chicago. Claims use since Oct. 17, 1944.

Norgloss — This for cleaner and polish for painted, enameled and lacquered surfaces. Filed Mar. 15, 1950 by Borg-Warner Corp., Chicago. Claims use since 1937.

Ferro — This for fungicides. Filed Sept. 29, 1949 by Ferro Enamel Corp., Cleveland. Claims use since Apr. 1, 1946.

Entosan — This for insecticidal liquid for use as a spray. Filed Mar. 9, 1950 by McLaughlin Gormley King Co., Minnepolis. Claims use since Apr. 26, 1949.

Fly-Flu — This for insecticide. Filed Sept. 20, 1950 by Davis Manufacturing Co., Knoxville, Tenn. Claims use since May 1, 1950.

Aro-Brom G.S. — This for insecticides and disinfectants. Filed Oct. 7, 1950 by Gerson-Stewart Corp., Cleveland. Claims use since Nov., 1933.

1038 — This for insecticides. Filed Oct. 31, 1950 by California Spray Chemical Corp., Richmond, Calif. Claims use since Aug. 30, 1948.

Bowax — This for petroleum wax. Filed Dec. 7, 1950 by Bloer Petroleum Co., Philadelphia. Claims use since June 17, 1941.

Junior — This for manually operated insecticide sprayers. Filed Aug. 8, 1950 by H. D. Hudson Manufacturing Co., Chicago. Claims use since Dec. 31, 1927.

Chiffon Fluff — This for hair shampoo in cream form. Filed June 13, 1949 by Artistic Beauty Products Co., Los Angeles. Claims use since Apr. 24, 1949.

No-Wata — This for waterless hair shampoo. Filed July 15, 1949 by Belva Manufacturing Co., St. Louis. Claims use since Jan. 1, 1932.

Joray — This for soap powder, flakes and detergent for floors, woodwork, etc. Filed July 18, 1949 by Samuel Halaby, Inc., Rochester, N. Y. Claims use since Apr. 20, 1949.

Westpine — This for cleansing, disinfecting and deodorizing preparation for walls, floors, etc. Filed Dec. 13, 1949 by West Disinfecting Co., Long Island City, N. Y. Claims use since Oct. 1, 1949.

Noo — This for copper and stainless steel cleaner. Filed July 8, 1950 by Calnor Products, Boston. Claims use since May 1, 1950.

Goody — This for dry bath or cleaner for dogs and cats. Filed Aug. 30, 1950 by R. J. M. Sales Co., Burlington, Wis. Claims use since June 1, 1950.

Lavasol — This for soap-like synthetic detergents. Filed Sept. 20, 1950 by Procter & Gamble Co., Cincinnati. Claims use since Apr. 27, 1950.

West — This for liquid soap dispensers. Filed Apr. 12, 1948 by West Disinfecting Co., Long Island City, N. Y. Claims use since Nov. 10, 1900.

Denticillin — This for dentifrice. Filed Oct. 26, 1949 by Andrew Jergens Co., Cincinnati. Claims use since Oct. 5, 1949.

Glit-O-Ring — This for soap compound for cleaning jewelry. Filed May 21, 1949 by Glit-O-Ring, Inc., Minneapolis. Claims use since Mar. 1, 1947.

Miraval — This for detergent or whitening agent. Filed May 23, 1949 by Economy Chemical Co., Jersey City, N. J. Claims use since Apr. 29, 1949.

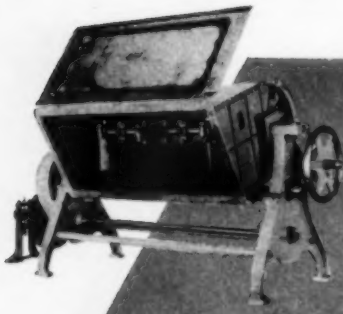
Supersheen — This for alkaline detergent for machine dishwashing and general cleaning purposes. Filed Dec. 15, 1949 by Allied Chemical & Dye Corp., New York. Claims use since 1948.

Spurt — This for liquid preparation for removal of blood stains from fine fabrics. Filed Nov. 29, 1949 by Patek and Co., San Francisco. Claims use since Sept., 1949.

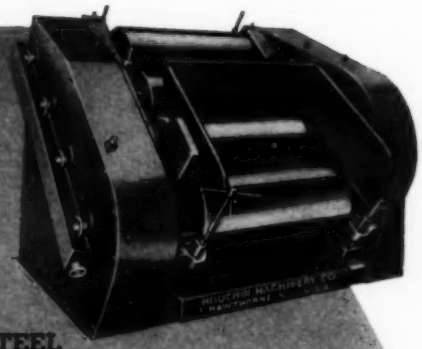
Lathernist — This for shampoo. Filed July 7, 1950 by Hal Collins Co., Dallas, Tex. Claims use since June 23, 1949.

6 MACHINES IMPORTANT IN—

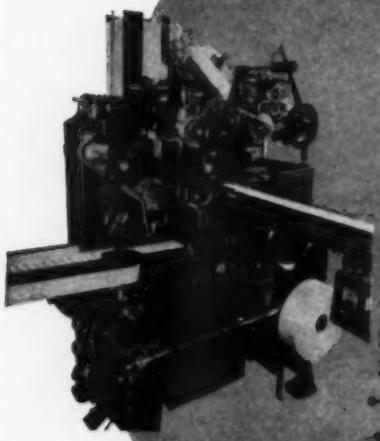
SOAP MAKING

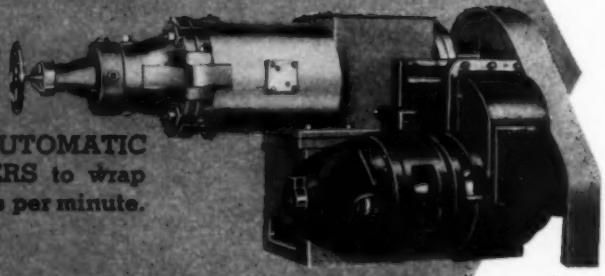


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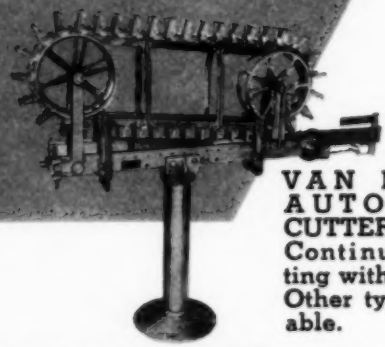


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PRODUCTION SECTION

Making Medicated Soaps

The base for medicinal soaps is usually a milled soap, and any good soap base, such as is used in toilet soap is satisfactory. Soaps from low grade fats are unsuitable.

SODIUM and potassium soaps incorporating medicinal ingredients are used often in treating skin diseases. Among the compounds added to soap for their antiseptic, anti-parasitic, keratoplastic, or other therapeutic action are: tar, sulfur, ammonium sulfoichthyolate, beta-naphthol, Peru balsam, Thymol, and cresol. Inasmuch as the medicinal ingredients in the soap should keep indefinitely, the use of compounds which react with soap and become inactive should be avoided. For instance, salicylic acid or boric acid do not retain their active antiseptic and anti-parasitic action when incorporated with soap. The former is transferred to inactive sodium salicylate, and the boric acid is transformed with the alkali separated by hydrolysis.

The base for medicinal soaps is usually a milled soap, and any good soap base, as may be used in toilet soap manufacture is satisfactory. Soaps made from low grade fats (home fat and residue fat) are unsuitable for medicinal purposes. Soap additives such as casein pastes used to develop foam or improve soap structure should be avoided in medicated soap bases because chemical transformations with these ingredients may result. It is cautioned also to keep medicated soaps free of water glass, metasilicate, and sodium chloride.

Tar soaps may be made by two methods. In one case, the tar is saponified directly, by heating 10 parts of pine wood tar with 7.5 parts of 38° Bé sodium hydroxide, and adding 10 parts of coconut oil. The resultant soap contains about 40 per cent tar. Thirteen parts of this high tar content soap are then combined with 87 parts of soap base chips, the mixture worked in a plodder, and formed into cakes.

The second method of manufacturing a tar soap is based on using the therapeutically active extract of tar. This extract is anthrasol, a pale, yellow liquid of average viscosity, having the smell of tar, but not its irritating qualities, even when used in large amounts. About five parts of the anthrasol are milled with 95 parts of soap chips to yield a satisfactory tar soap without the characteristic dark color. The anthrasol smell may be eliminated by adding .5 to one per cent lavender or other suitable perfume compound. The action of the anthrasol may be supported by adding sulfur, which also has suitable antiseptic and anti-parasitic action. The following is a suggested formula for a strong antiseptic, phenol-tar-sulfur soap:

	parts
basic soap	75
40 per cent tar soap	8
precipitated sulfur	5
carbonic acid	12

Other medicated soaps may be based on five parts of Ichthyol (ammonium sulfoichthyolate), 92 parts of soap base and three parts of lanolin. In the preceding formula, three parts of beta-naphthol may be used in place of the lanolin to form a soap with added therapeutic action. As mentioned previously, about four per cent Peru balsam or Thymol may be used as the active ingredients in medicated soaps.

In the preparation of medicated soap cakes, lanolin is often indicated, because it prevents certain reactions between the soap and added ingredients. The medicinal ingredients are enveloped by the lanolin and so isolated from the action of the soap.

Besides the solid form of medicated soaps, there are also liquid products, such as those incorporating about 50 per cent crude cresol. One such product is made from soft soap and incorporates the following:

	parts
linseed oil	30
potassium hydroxide	7
water	10
alcohol	3
cresol	50

Other liquid products may contain formalin as the active therapeutic ingredient. Such soap solutions are often sold under the name of Lysoform or similar brand name. These products are strongly antiseptic, deodorant and antiperspirant. M. Fock, *The Alchimist* 5, No. 7, 184-188 (1951).

(CLIP AND FILE)

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	SODIUM TRIPOLYPHOSPHATE	TETRASODIUM PYROPHOSPHATE
Chemical Formula	$Na_5P_3O_{10}$ (Anhyd.)	$Na_4P_2O_7$ (Anhyd.)
Typical Analysis	Phosphorus Pentoxide (P_2O_5).....57.5% Sulfates (SO_3)..... .07% Fluorine (F).....5 ppm* Arsenic (As_2O_3).....0.1 ppm* Lead (Pb).....0.4 ppm*	Phosphorus Pentoxide (P_2O_5)..... 53.1% Sulfates (SO_3)..... .07% Fluorine (F).....5 ppm* Arsenic (As_2O_3).....0.1 ppm* Lead (Pb).....0.4 ppm* *Parts per million
Types Available	Powdered and Granular	Powdered and Granular
pH — 1% Sol.	9.7	10.2
Solubility in 100 Parts of Water	25° C.—14.5 pts. 80° C.—23.25 pts. 40° C.—16.25 pts. 100° C.—32.5 pts. 60° C.—19.25 pts.	25° C.—6.0 pts. 80° C.—41.1 pts. 50° C.—16.5 pts. 95° C.—29.0 pts. 75° C.—46.0 pts.
Water Softening Efficiency—percentage of phosphate on weight of water required to secure zero hardness toward soap. Test waters contained 2 to 1 ratio of calcium to magnesium hardness.	Hardness PPM / Room Temp. / 140° F. / 180° F. 50 / 0.05% / 0.05% / 0.05% 100 / 0.11 / 0.11 / 0.09 200 / 0.20 / 0.18 / 0.15 300 / 0.30 / 0.27 / 0.21 400 / 0.39 / 0.33 / 0.27 500 / 0.50 / 0.48 / 0.33 Sodium Tripolyphosphate solubilizes both calcium and magnesium soaps.	Hardness PPM / Room Temp. / 140° F. / 180° F. 50 / 0.21% / 0.21% / 0.21% 100 / 0.38 / 0.30 / 0.26 200 / 0.56 / 0.45 / 0.38 300 / 0.66 / 0.55 / 0.54 400 / 0.75 / 0.69 / 0.69 500 / 0.88 / 0.75 / 0.75 Tetrasodium Pyrophosphate solubilizes magnesium soaps and disperses calcium soaps.
Stability to Reversion in Hot Water Solutions. (Both products are stable for months in solution at room temperature.)	After 10 hours at 160° F. solution will contain approximately 98% STPP (unchanged), 1.2% pyrophosphate, and 0.8% orthophosphate. After 2 hours at 212° F. (boiling) solution will contain approximately 80% STPP, 12% pyrophosphate, and 8% orthophosphate.	After 10 hours at 160° F.—practically no hydrolysis—solution still contains approximately 100% of original concentration of TSPP. After 2 hours boiling—99% TSPP, 1% orthophosphate. After 20 hours boiling—90% TSPP, 10% orthophosphate.
Peptizing and Dispersing of Solid Particles.	Both products are very effective, the choice depending on nature of solid particles to be dispersed.	
Prevention of Iron Stains	These phosphates hold iron in solution, preventing stains due to rusty pipes, equipment, or natural iron in water.	
Uses	Water softening. Builder for detergents and soaps—including bar and chip soap (non-blooming). Industrial cleaners. Dispersant for pitch control in paper manufacture. Clay dispersing. Textile processing. Conditioning drilling muds.	Water softening. Builder for soaps and detergents. Conditioning drilling muds. Industrial cleaners subjected to high temperatures for long periods. Stabilizing peroxide bleach baths. Clay dispersing. Textile processing. De-inking newsprint. Tin plating.

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Aerosols for Foam Products

"FREON"* and "Genetron"** propellents are commonly used for generating shampoo or shaving lather from aqueous solutions of soaps and detergents. The propellent in the form of a gas is forced into the container through the valve under a pressure of several atmospheres. In packing foam-type products, it is not practical to liquefy the propellent by the use of sub-zero temperatures, as is customary in filling aerosol cans. The aqueous detergent solution would freeze solid if chilled sufficiently to prevent vaporization of the propellent.

Foam products require a relatively small amount of propellent in comparison with spray products. From six per cent to 15 per cent "Freon" is sufficient for shaving cream or shampoo. "Freon 12," which has a vapor pressure of 70 psig. can be used in packing shaving creams and shampoos, although the 40-lb. mixture of "Freon-12" and "Freon-114" used in low pressure aerosols is also satisfactory in lather products.

An experimental formula for a detergent shampoo to be packed with "Freon" is given below. The product is to be packed with "Freon-12"-"Freon-114" propellent, using one part by weight of "Freon" to nine parts of shampoo:

	per cent
Duponol WA paste	30.0
Duponol ST	5.0
soluble lanolin	1.5
perfume	0.3
water	63.2

Inasmuch as liquid "Freon" and "Genetron" are not compatible with water solutions, it has been a problem to secure a uniform dispersion of the propellent in lather products. If the can is shaken before use, the propellent emulsifies temporarily with the detergent, but this breaks within a few minutes. Until more stable formulations are developed, it is necessary for the manufacturer to rely on the consumer to follow the directions "shake before each use."

Still another factor in preparing lather products for use in aerosol dispensers, is the selection of perfume for the product. Many perfume oils have poor solubility in "Freon," so that when the emulsion of the propellent and detergent separates into two layers, the perfume oil usually remains in the detergent solution exclusively. As a result, if the can is not shaken before use, the foam may contain a high proportion of the unscented propellent and have a weak odor. It is recommended that the perfume oil be at least partially soluble in the propellent. It is also pointed out that there is a tendency for the odor of detergents and other active ingredients to show up strongly in the product, because the foam structure presents a large surface to the atmosphere. As a result, it is important to use enough perfume to cover the basic odor of the preparation. *Schimmel Briefs* No. 196 July 1951.

* Registered trade mark of E. I. du Pont de Nemours & Co., Wilmington, Del.

** Registered trade mark of General Chemical Division, Allied Chemical & Dye Corp., New York.

CMC Effect on Built Soap

The addition of three per cent or more sodium carboxymethyl cellulose to built soaps improves the soil removal properties of the soap, except where builder concentrations are very high. Whiteness retention properties and builder tolerance of common soaps are also increased by the addition of CMC. Both soil removal and whiteness retention properties of unbuilt soap are increased by the addition of small amounts of CMC. Practical considerations limit the use of CMC to low concentrations. T. H. Vaughn, and M. G. Kramer, *J. Am. Oil Chemists Soc.* 28, No. 7, 317-319 (1951).

Causes of Soap Rancidity

Pure vegetable oil soaps, known as "free from animal fat soaps," begin to show odor rancidity much earlier than soaps prepared from oil stock containing animal fats. This rancidity may be due to the presence of highly unsaturated fatty acids or their glycerides in the oil stock; or, oxidization and polymerization of these fatty acids and/or glycerides; or, enzyme and bacterial action.

Further studies of causes of rancidity of oil stocks indicate that the presence of unsaponifiables favors rancidification. Tests were made with mahwa fat, which is rich in unsaponifiable matter, containing besides sterols, a very highly unsaturated hydrocarbon and coloring matter. These were found to be readily susceptible to oxidation. Extraction of the unsaponifiables yielded a fatty acid which could be made into a soap having no greater tendency toward rancidity than a pure coconut oil soap. P. V. Srivastava and S. N. Sethumadhava Rao, *Soap, Perfumery and Cosmetics* 24, No. 7, 673-676 (1951).

Glyceride from Soybean Oil

A new process for the production of monoglycerides directly from soybean oil is based on hydrolysis and esterification reactions. Refined, bleached and deodorized soybean oil is the raw material.

The oil is mixed with an equal weight of distilled water in an autoclave and the system evacuated to three mm. mercury, until a temperature of 40° C. is reached, thus removing the air which tends to darken the product at higher temperatures. The mixture is heated to 240° C. and subjected to 500 psi for two and one-half hours. The result is 91 per cent hydrolysis with five per cent monoglycerides in the fatty acid layer.

The aqueous glycerine phase is separated from the fatty acid phase, and treated to remove most of the water. The concentrated glycerine is combined with one-third the fatty acids in an autoclave and heated under pressure to yield a product containing about 38 per cent monoglycerides. Caustic soda is added as a catalyst in the formation of the monoglycerides, and to promote emulsification. Salable by-product of the process is two-thirds of the fatty acids formed in the hydrolysis reaction. Credit for these acids is important in determining the economics of the process. *Chemical Engineering* 58, No. 7, 200-203 (1951).

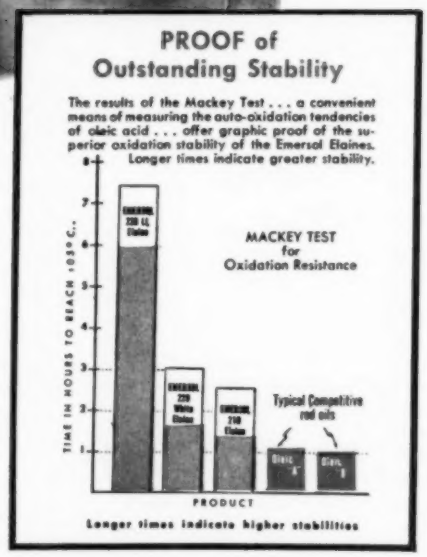
Unpleasant Smell *never* helps a Product Sell!



EMERSOL OLEIC ACIDS Will Keep *Your* Products Fresh, Free from "Summer-Heat" Rancidity

Guard your products from unpleasant, unprofitable rancid odors during hot summer weather. Emersol Oleics resist oxidation better than *any* competitive red oils you can use! The superior stability of these Emery Acids is clearly demonstrated by the chart shown.

Be sure this summer and all year through . . . that your products will reach consumers as fresh and pure as when shipped. Do as more and more alert manufacturers are doing . . . *specify* and *insist* upon the extra stability and superior product protection of *Emersol Oleic Acids*. Your products will look better, keep better and sell better! Next time, buy Emery!



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National Milling Catalog

National Milling & Chemical Co., Philadelphia, recently announced the availability of a 28-page catalog of its line of soaps, synthetic detergents and other cleaning compounds. Applications and packaging of the "Namico" line of soaps and cleaners for a wide variety of cleaning operations are described in the booklet. Illustrations of the company's plant, laboratory, plant equipment and shipping facilities are included in the booklet, which is available by writing the firm at 4601 Nixon St., Philadelphia 27, Pa.

New Sealing Conveyor Unit

A complete set-up for conveying and sealing large, heavy packages in polyethylene was announced recently by Amsco Packaging Machinery, Inc., Long Island City, N. Y. The new unit, Amsco Model D high speed automatic rotary sealing machine comes with air extractor and roller bed conveyor. The system maintains a steady flow of securely sealed bags with little or no handling.

A special 16-inch pre-heater conditions the polyethylene before it enters the sealing mechanisms, permitting very high sealing speeds. The unit is equipped with variable speed controls for operation at efficient bag handling and sealing speeds. These speeds vary from 150 to 550 lineal inches per minute. Dimensions of the sealing machine are 62 inches high x 33 inches wide x 54 inches long. The roller bed conveyor, equipped with adjustable legs, is supplied in six or nine inch widths in any length required.

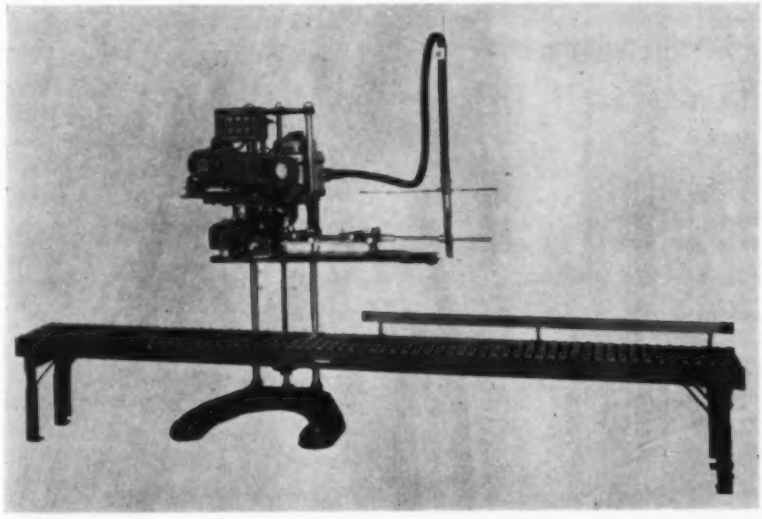
Fish Oil Bulletin

Specifications and recommended uses for its line of fish oils are contained in a revised technical bulletin (No. 83), issued recently by Archer-Daniels-Midland Co., Minneapolis. Although the price of fish oils remains traditionally low, quality has been improved by research to adapt them for a variety of uses, according to an A-D-M spokesman. Copies of the bulletin are obtainable by writing the company at Box 839, Minneapolis 2, Minn.

Abbé "Dispersall" Booklet

A 12-page booklet on its line of "Dispersall" mixers for dispersing, emulsifying and milling in one operation, was issued recently by Abbé Engineering Co., 50 Church St., New York 7. These mixers, which are applicable to all kinds of fluid mixes from thin slurries to pastes, are illustrated and described in the folder. Specifications listed in the folder include two tables which cover standard sizes of mixers for thin to heavy slurries and pastes. A list of applications where the "Dispersall" mixer is used includes soaps and cosmetics, chemicals and vegetable, animal and marine oils.

New conveying and sealing unit of Amsco Packaging Machinery, Inc.



New Medium Size Filler

The introduction of a new, medium size, portable filler for a variety of operations was announced recently by Scientific Filter Co., New York. The new vacuum filler, Model SF, is equipped with a self-contained vacuum unit which fills bottles directly from supply container on the floor and thus eliminates the need for overhead storage tanks. Vials, miniatures, petit containers of all types, sprinkler top bottles, and all kinds of glass or tin containers up to quarts can be filled on this unit. Only one operator is required for maximum production. An extension table can be used for capping operations. Spouts are fully adjustable and change-overs take five minutes, according to the maker, as all liquid contact parts are self-cleaning. The range of liquids which can be handled by the new model is from light to heavy. An all-purpose unit for moderate requirements, Model SF can also be used as an auxiliary machine where automatics are available but are in use.

Pleated Paper Air Filter

An absolute filter, consisting of pleated paper, for use wherever absolutely clean air is needed was developed recently by Carrier Corp., Syracuse, N. Y. It finds use in processing, or where toxic fumes or dust must be prevented from escaping to the atmosphere or from entering working areas of shelters. The filters are currently available in two standard sizes with rated capacities of 500 and 850 cubic feet of air per minute.

International Wax Booklet

The fifth edition of its booklet, "Dependable Waxes for Industry" was announced recently by International Wax Refining Corp., Valley Stream, N. Y. Specifications and properties of waxes and wax specialties made by International are listed in the booklet, which is available by writing the company at East Hawthorne Ave. and L.I.R.R., Valley Stream, N. Y. Also included in the booklet is a suggested formula for a silicone oil furniture polish.

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2. *High bulk density product obtainable from heavy feed formulations.*
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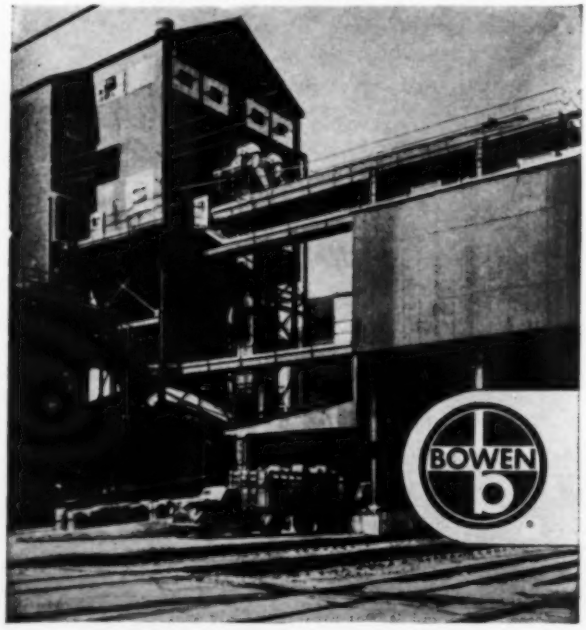
Bowen engineers will be glad to furnish specific information on your particular problem.

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Bowen designed Detergent Spray Dryer 30' diameter—75' high



PRODUCTION CLINIC

By E. G. THOMSSEN, Ph.D.

THE use of the sense of smell to stimulate sales of various products is not new. Leading industries, such as those of cosmetic and soap manufacturers, have long realized the importance of employing pleasant, appealing odors to increase the consumption of their wares. When the volume of business warrants it, the concerns in these fields employ persons skilled in the innovation and compounding of scents to devote all their working hours to problems of perfuming. Such perfumers attain a rank equal to that of the chemical worker whose duty it is to process or control the quality of the various items manufactured. Other industries have turned to perfumes to overcome or mask offensive odors or to make their products smell more pleasingly. We find perfumes in certain articles of clothing, glue, leather, linoleum, paints, paper, plastics, printing inks, textiles, waxes and other items. The cost of adding the right perfume usually is more than offset by increased acceptability of the product.

Sanitary products manufacturers are using perfumes to improve the sales appeal of their merchandise. Unfortunately, however, it is my observation that they are not giving ample attention to this constructive detail. In many cases the interest leans more forcibly toward the cost angle than toward obtaining a satisfactory, lasting and pleasant odor. Many of the perfume compounds that are found in these products are obtained at the cheapest possible price, a fact which the odor clearly reflects.

It is very true that the prime purpose of sanitary chemicals is to promote cleanliness. But the public also unconsciously associates cleanliness with a good odor and not the usual vile smelling materials so often experienced in conjunction with these products. The growth in popularity of wick type and aerosol spray type household deodorizers is ample proof of this. Many consider that offensive cooking odors or musty smells are an indication of poor housekeeping and are somehow associated with uncleanliness.

To deodorize wash rooms is



DR. THOMSSEN

difficult. It has become customary to associate sanitation in these places with a phenolic or paradichlorbenzene type of odor. These are really offensive to many. In some cases, dispensers giving off a floral aroma are an improvement over the phenolic liquids and para blocks. The perfumes used, however, are usually heavy and leave behind odors of fixatives that are about as obnoxious as those of the chemicals. Since considerable progress has been made in ascertaining the causes and correction of many types of obnoxious odors, it is quite possible that one of these days a popularly priced deodorizing chemical will be devised to kill such smells and replace them with a truly pleasant, clean aroma.

In spite of the advances that have been made in soap perfumes, it is surprising that one still finds so many of the liquid soaps for dispenser use so poorly scented. Unquestionably the majority of people prefer good odor. The more pleasant it is, the better we like it. Large soap companies have built volume upon this premise. It is quite disgusting to wash one's hands and find that some rank smelling perfume odor clings to them. That is the case with many liquid soaps, however. Personally the writer would prefer to depend upon the cleansing property of water alone than to use the poorly scented soap one finds in such places as Pullman cars, private and public wash rooms, etc. Even if perfume were the most costly ingredient, a little of a good grade odor is preferable to the heavily scented concoctions made at a price, possibly from pot pourri. Surely the undiluted odor of a good grade liquid soap is more desirable than some scents used to mask the soap odor. Pleasant odors are not difficult to obtain and those who give proper attention to this detail will gain favorable comment from their customers.

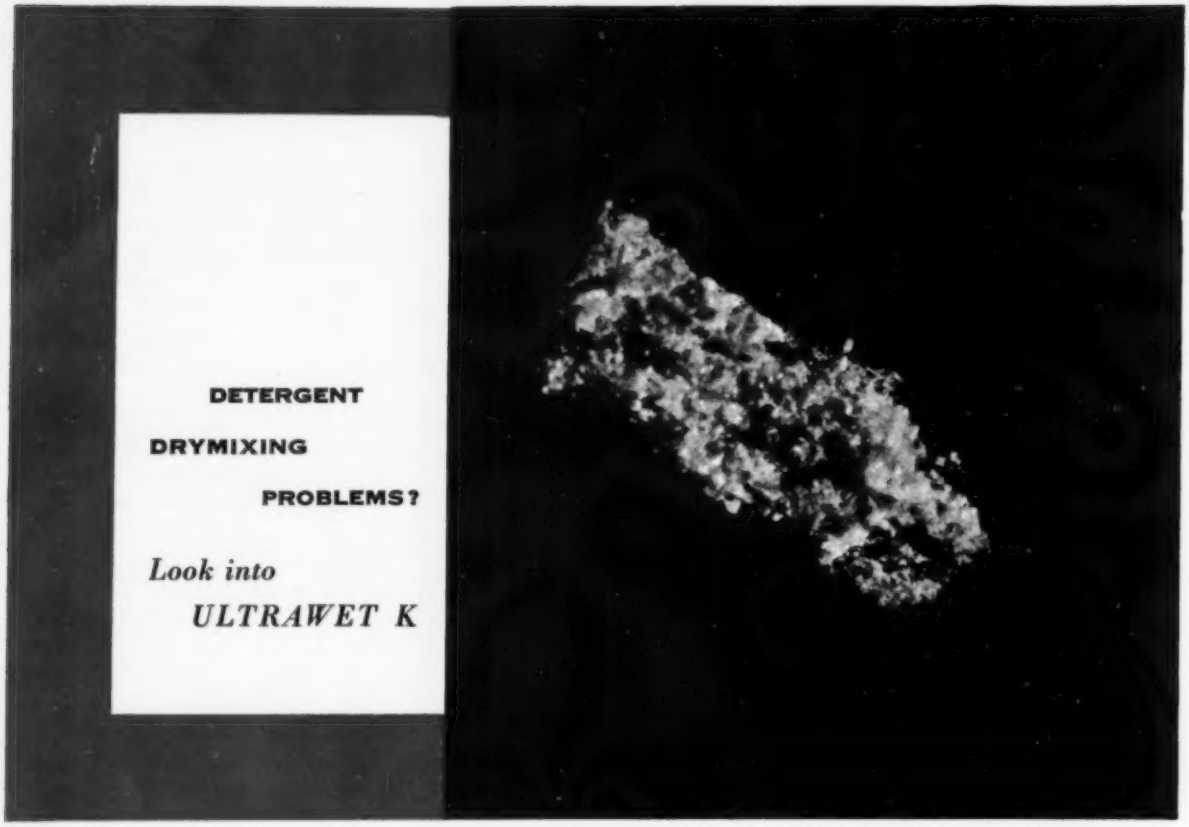
It has been encouraging to note that some sanitary supply dealers are giving greater attention to the use of perfumes in such products as disinfectants and liquid waxes. Cedar and pine odors are employed most generally. The smell of disinfectants, certain detergents and liquid or paste waxes does not appeal to most users. More detailed attention to deodorization or replacing the unpleasant smell with a more pleasing one is a move toward improvement in quality.

Since experience is required to compound perfume satisfactorily for products, the problem should be delegated to those best versed in this work. Suppliers of raw materials are always ready to render assistance. Their laboratories understand the factors thoroughly which may affect the use of various aromatics when in contact with certain chemicals. The olfactory sense is important to the consumption of sanitary products. Better and more careful attention to odor is a progressive step.

CMC Technical Bulletin

HERCULES POWDER CO., Wilmington, Del., has issued a technical bulletin on their CMC-CT which is of interest to soap chemists. The well presented information lists the properties of carboxy methyl cellulose and gives several formulas for its use in built tallow soaps, as well as synthetic detergents. As is well known, this cellulose gum greatly improves

Magnification of an ULTRAWET K flake.



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This alkyl aryl sulfonate has only 15% sodium sulfate which allows you freedom to select your own combination of builders and extenders. Costs can be pared too because ULTRAWET K's 85% active flake means a real saving when compared to *less* active flakes. Another plus for this concentrated synthetic detergent — it can be stored in a smaller space.

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whiteness retention of articles washed with products containing it. A copy of the booklet is available upon request.

Saran Lined Pipe

A STEEL pipe that can be cut and threaded as easily and quickly as regular steel pipe, without any special tools or handling, is Saran Lined Pipe. It is made by Dow Chemical Co. and distributed by The Saran Lined Pipe Co., Ferndale, Mich. This piping when once installed gives dependable, long term operation. It possesses very good corrosion resistance. Detailed information regarding saran lined pipe, valves and fittings is available.

Wall Washing Machine

A WALL washing machine that will clean as much as 5,000 square feet of wall or ceiling space per day is offered by Ross & Story Products Corp., Syracuse, N. Y. This company claims that its machine, when used with the cleaning solution it supplies, will do a good, neat job quickly and silently. The cleaning solution and rinse water are contained in two, light weight tanks from which the liquids are forced by air pressure to the cleaning devices. These devices or trowels have removable, rewashable cleaning pads attached. The machine weighs 24 pounds.

50 Years of Scale Building

TOLEDO SCALE CO. of Toledo, O., has prepared a 50th anniversary brochure on its line of scales. This may be had by anyone interested. Among the many different types of weighing equipment this company makes is the Printweigh. As the name implies, this scale eliminates human errors by supplying a written record of articles weighed.

Oil Soluble Wetting Agent

"ALKATERGE-C" is the name given to an oil soluble wetting agent, produced by Commercial Solvents Corp., New York. Unusually small quantities of the product are required to reduce the interfacial tension between water and such substances as n-hexane or mineral oil. As a result, "Alkaterge-C" facilitates the ready production of certain emulsions. It is an effective antifoam reagent especially when used with mineral oils. The higher fatty acids form oil soluble soaps with it, which are valuable in metal cleaners and other applications.

Precision Labeler

ECONOMIC MACHINERY CO., Worcester (3), Mass., is well known as the builder of "World Labelers." Their "Bee-Line" labeler is a very versatile, rapid machine. It handles a wide variety of sizes and shapes from vials to gallon jars at speeds up to 120 per minute. The labeler gives continuous, smooth, correctly registered work on all kinds of labels. It handles front and back labels, neck bands and medallions with proper facility. The company will cooperate with layout suggestions and furnish costs to those interested.

Pump for Abrasive Materials

THE "Amsco" pump built by American Brake Shoe Co., New York has the reputation of handling abrasive materials, even gravel and ashes, for a long period, without any wear. These pumps operate at low cost and the tough, wear resistant construction assures long, satisfactory life. Illustrated literature is available by writing the company.

Packaging Machine

STOKES & SMITH CO., Philadelphia, are featuring the fact that their "Stokeswrap" packaging machine, which has been widely used for packaging powders, granular products, creams and pastes in cellophane, pliofilm, heat sealing foil and other heat sealing media, is now being equipped for use with polyethylene film. This film, which has more strength against tear, permits the packaging of a larger range of heavier products which could not be packaged in flexible packages.

New "Pulvette" Pulverizer.



New Small Pulverizer

Development of a new small size pulverizer for small production, pilot plant or laboratory work was announced recently by Pulva Corp., Perth Amboy, N. J. Equipped with either a ¾ or one horse power motor, the new "Pulvette" unit requires no installation, is supplied with extension cord to be plugged into a lighting circuit. A feature of the new pulverizer is a feed device consisting of a "Syntron" vibrator applied in a special manner to vibrate the feed hopper and feed trough. This action fixes an even flow into the mill, eliminating bridging and arching, according to the maker. Control of feed rate from zero to maximum capacity of "Pulvette" is obtained by turning a rheostat button. Capacity depends upon fineness of product desired and hardness or toughness of the material being reduced. Normally furnished in gray iron and steel, it is available in stainless steel, bronze, aluminum or other usual metals of construction.

MRM Labeling Machine

A new automatic labeling machine, designed for continuous motion, has been announced recently by MRM Co., Inc., Brooklyn, N. Y. A bulletin describing the machine may be obtained from the company.

New "Kiefer Calling"

The spring number of "Kiefer Calling," external house magazine of Karl Kiefer Machine Co., Cincinnati, was issued recently. Featured in the new issue is the new constant level type liquid filling machine that involves the use of combination of pressure and vacuum. In addition, the Kiefer No. 1-8 stem rotary pressure vacuum filler is illustrated and described, as are installations of the company's equipment in the plants of Sharp & Dohme, Inc., and Eli Lilly and Co.



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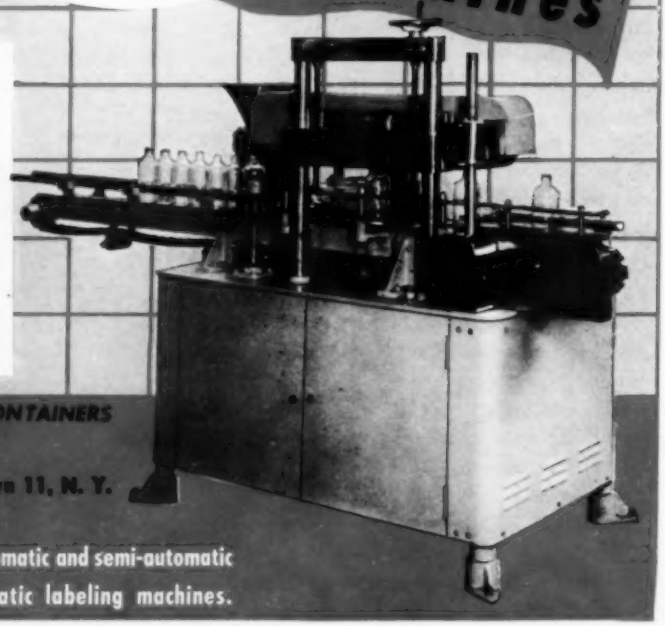
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PRODUCTS AND PROCESSES

Mechanic's Hand Cleaner

Metal alkyl sulfates of low water solubility are produced by sulfation of a distillation fraction of shale oil (b.p. 270-360° C.) with 10 to 20 per cent, by volume, of sulfuric acid (96-100 per cent) at a temperature below 20° C., followed by neutralization with sodium carbonate, incorporating a filler, e.g., kieselguhr; a binder, e.g., bentonite; and a refined mineral oil. The compositions obtained are suitable for removing mineral lubricating oils and sludges from operator's hands. British Patent 646,765.

Lanolin in Wax Polish

A wax polish incorporating lanolin as the dispersing agent for the waxes in turpentine has the following formula:

	parts by weight
paraffin wax (m.p. 50-55° C.)	20
ceresin (m.p. 50-55° C.)	5
lanolin	5
beeswax	10
carnauba	10
turpentine	10
coloring matter	q.s.

Perf. and Essent. Oil Review 42, No. 5, 171 (1951).

Detergent Concentrate

A concentrate of secondary alkyl sulfate, containing more than six carbons is obtained by salting out in the presence of an organic solvent (b.p. about 100° C.), containing one or more polar groups, e.g. cyclohexanol. An upper layer comprising the concentrated ester salt and solvent separates, from which the latter is removed by distillation. B.P. 646,948 through *J. Soc. Dyers and Colourists* 67, No. 4, 154 (1951).

Synthetic Wax Formulations

A synthetic hydrocarbon wax, "Syrex 200," has a softening point of 190° to 197° F. and can replace natural waxes in shoe, car, and floor polishes. It acts as a mutual solvent in the hot melt, and serves to create homogeneity and compatibility between materials which might otherwise be incompatible. The following formula is typical of a paste shoe polish incorporating the synthetic wax:

	parts
Syrex 200	12
Microcrystalline wax, 195° F.	41
stearic acid	1
lanolin	8
color	5-7
turpentine	14
white spirit	56

The stearic acid is used to impart a rapid shine in polishing, while the lanolin serves as a leather softener. G. W. Wood, *Chem. Products* 14, No. 8, 279 (1951).

Deodorization of Fats

Fats and oils such as corn, cottonseed, lard, etc., may be deodorized by subjecting them to a high vacuum distillation, removing the fraction containing a large amount of the odoriferous substances, and passing the balance of the fat or oil through vacuum still distillation for about 15 minutes. The vacuum in the second distillation may be about six to 12 mm. mercury absolute pressure, and the hot fat or oil may either be passed directly from the high vacuum still to the steam distillation without intermediate cooling, or first passed through a counter-current heat exchanger into a storage tank, before entering the steam still. Brit. Pat. 605,143 through *Manufacturing Chemist* 22, No. 7, 299 (1951).

Activation of Clays

The bleaching power of clays is decreased generally by high temperatures of drying following acid treatment or baking at high temperatures prior to acid treatment. Sulfuric acid was found to be as good or better than hydrochloric acid in activating clays. Increasing the amount of acid used increases the activity of the clay produced. Residual acidity of the activated clays imparts considerable variation in the activity of the clay produced. S. Mukherji and J. C. Roy, *Indian Soap Journal* 16, No. 11, 281-287 (1951).

Sea Water Detergents

Washing agents consisting of soap and alkali fluorides, intended for use in hard water or sea water, may be improved by using the fluorides in a readily soluble form, and the soap in a form which dissolves more slowly. In this way the fluoride forms complexes with the calcium, magnesium, iron, and manganese complexes before the soap is dissolved. Dutch Pat. 67,413.

Analysis of Froth Formation

Froth tests by an automatic testing apparatus for substances which lower surface tension, indicate the following relation between froth and concentration. Studies of pure sodium alkyl sulfates indicate that frothing reaches its maximum at the critical concentration for the formation of micelles, while the volume of froth increases linearly with the logarithm of the concentration. E. Gotte, *Melliand Textilber* 32, 210-212 (March, 1951) through *J. Soc. Dyers and Colourists* 67, No. 7, 294 (1951).

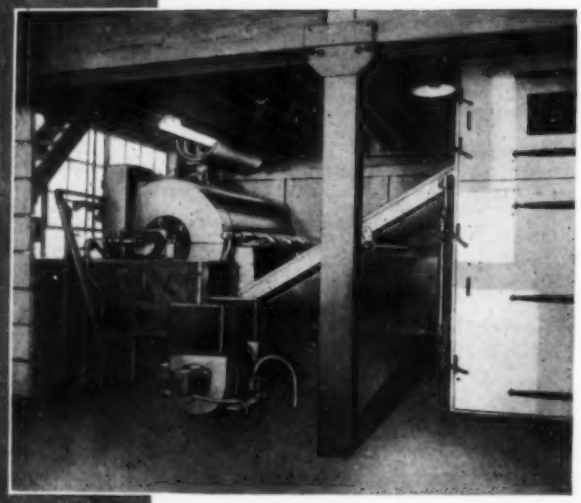
Cottonseed Oil Extraction

Studies of the extraction of cottonseed oil with various solvents indicate that substitution of methylpentanes for normal hexane is desirable. Use of methylpentanes should result in an increase in the oil recovered from the seeds, a decrease in the oil lost during subsequent refining, and an improvement in the color of both refined and bleached oils. Other advantages include: steam savings due to the lower boiling point of methylpentanes; improvement in color of the oil due to more complete stripping of the solvent from the oil at lower temperatures; and ready detection of the odor of methylpentane in the air, allowing early discovery of leaks, etc. A. L. Ayers and C. R. Scott, *J. Am. Oil Chemists' Soc.* 28, No. 8, 343-351 (1951).

THE *NEW* SOAP CHIP DRYER *by* SARGENT



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SARGENT'S New Soap Chip Dryer has flexible feed control and accurate chip thickness control—with three variable speed drives, for the rolls, for the feed apron, for the dryer conveyor. It has many other new features all designed to speed production at low operating cost.

The installation illustrated is at Standard Soap Co., Camden, N. J. Production is 2000 lbs. tallow base laundry soap chips per hour, with intake moisture of 34% and leaving moisture of 8%. Harder drying soap averages 1600 lbs. per hour. Chip thickness of 10/1000 to 12/1000 is consistent and even across full width of chilling roll and feed apron conveyor.

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NEW PATENTS

The information below is furnished by patent law offices of

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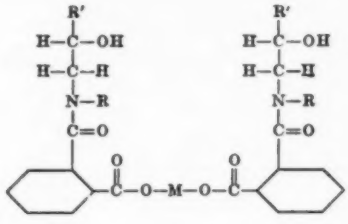
The data listed below is only a brief review of recently issued pertinent patents obtained by various U. S. Patent Office registered attorneys for manufacturers and/or inventors. Complete copies may be obtained direct from Lancaster, Allwine & Rommel by sending 50c for each copy desired. $1.00 for Canada. They will be pleased to give you free preliminary patent advice.

No. 2,553,716. Mild Detergent and Method of Making Same, patented by John J. Miskel, Brooklyn, N. Y., and Louis Rassner, North Bergen, N. J., assignors, by mesne assignments to Rare-Galen, Inc., Newark, N. J., a corporation of New Jersey. A mild nonirritating skin-cleansing composition is described composed essentially of a foamable mixture of an alkali-metal stearate soap and an alkali-metal salt of a sulfated oleate with an SO_3 content of at least 16.0 per cent based on the ash-free dry weight of the sulfated oleate, the oleate radicals comprising between approximately one third and approximately two thirds of the total number of acyl radicals in the mixture, and the said mixture having a pH value between approximately 7.5 and approximately 8.5.

A mild nonirritating skin-cleansing composition comprising a foamable alkali-metal soap of a sulfated tallow material, the sulfated tallow material containing at least 8.0 per cent SO_3 based on the ash-free dry weight, and the soap having a pH value between approximately 7.5 and approximately 8.5.

No. 2,553,288. Solvent Treatment, patented by Harland H. Young and Howard C. Black, Chicago, Ill., assignors to Swift & Company, Chicago, Ill., a corporation of Illinois. The patent covers a process for the manufacture of partial glyceride esters of a fatty acid which are free of flavor and odor, comprising subjecting a refined glyceride fat which has been hydrogenated and treated with glycerine to convert said fat into a mixture containing a substantial proportion of partial glycerides to solvent treatment with a polar solvent at a temperature such that a single phase is formed, reducing the temperature so that two distinct phases are formed, one of said phases comprising a solution of a polar solvent and the material tending to cause reversion of flavor and odor and the other phase comprising the partial glycerides, and recovering the partial glycerides free of reversion-causing material.

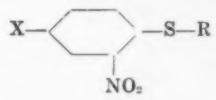
No. 2,554,274. Insecticidal Compositions, patented by Herschel G. Smith, Wallingford, Mark L. Hill, Boothwyn, and Troy L. Cantrell, Lansdowne, Pa., assignors to Gulf Oil Corporation, Pittsburgh, Pa., a corporation of Pennsylvania. The patent describes an insecticidal composition comprising a pyrethrins insecticide toxicant, a toxicant selected from the group consisting of bis-2,2-dichlorodiphenyl - 1,1,1 - trichloroethane, chlordane, gamma hexachloro cyclohexane, dichloro diphenyl dichloroethane, and bis-2,2-difluorodiphenyl-1,1,1-trichloroethane, a solvent therefor, and a divalent metal salt of an N-alkyl, N-alkylol, ortho phthalamidic acid, said metal salt having the following formula:



wherein M is a divalent metal, R is an alkyl group containing from 8 to 22 carbon atoms and R′ is selected from the group consisting of hydrogen and alkyl.

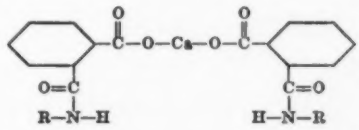
No. 2,557,814. Dispersing Insecticides as Vapors, patented by John Merritt Dinsdale, Phyllis May Holmes, and Pamela Ruth Martin, High Post, Salisbury, England, assignors to Waeco Limited, a British company. The patent describes a composition for use in the generation of insecticidal smokes, comprising in admixture hexamine, potassium chlorate for providing oxygen for the combustion of the hexamine, the ratio of the weight of the potassium chlorate to the weight of hexamine being within the limits 0.75:1 and 5.0:1, and a thermally vaporizable halogenated organic insecticidal compound whose vapors are heat-decomposable, the ratio of the weight of the insecticidal compound to the combined weight of hexamine and potassium chlorate being within the limits about 2.3:1 to 3.5:1, whereby, on combustion of the composition, flaming and thus heat-decomposition of the heat-decomposable vapors is avoided.

No. 2,557,520. Pesticidal Compositions Comprising an Alkyl Aryl Sulfide, patented by Davis A. Skinner, Compton, and Elvin L. Wampler, Anaheim, Calif., assignors to Union Oil Company of California, Los Angeles, Calif., a corporation of California. A pest control composition is covered essentially comprising an aqueous dispersion containing from about 0.1 to about 5 per cent by weight of an alkyl aryl sulfide having the general formula:



wherein R represents an alkyl group and X represents a substituent selected from the class consisting of nitro and halogen groups, and from about 0.001 to about 0.5 per cent of a dispersing agent.

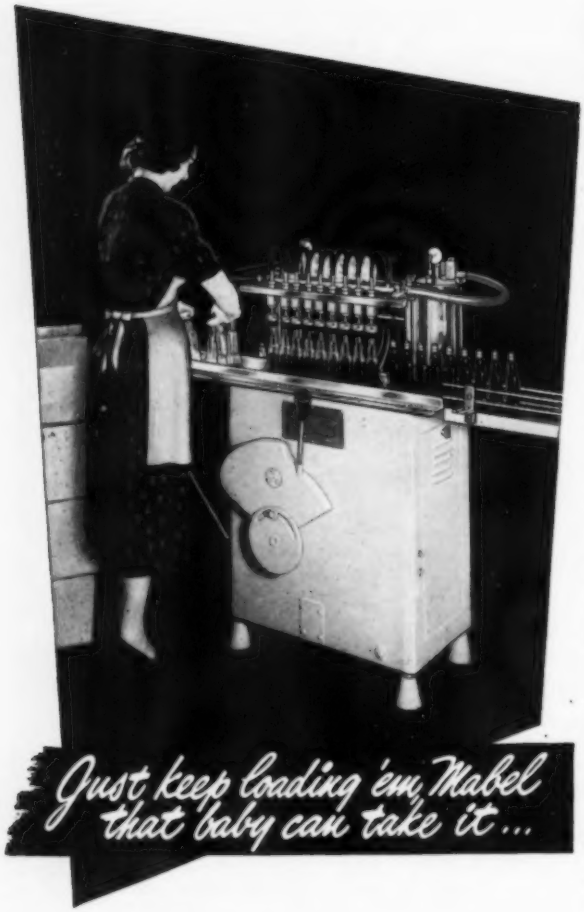
No. 2,554,249. Improved Insecticidal Compositions Containing Calcium N-Alkyl Phthalamidates, patented by Mark L. Hill, Yeadon, Troy L. Cantrell, Lansdowne, and Herschel G. Smith, Wallingford, Pa., assignors to Gulf Oil Corporation, Pittsburgh, Pa., a corporation of Pennsylvania. An insecticidal composition is covered comprising at least one insecticide toxicant selected from the group consisting of pyrethrins, halogenated hydrocarbon insecticide toxicants, organic thiocyano insecticide toxicants and mixtures thereof, a solvent therefor, and a substantially neutral calcium salt of a phthalamidic acid, said salt having the formula:



wherein R represents an alkyl group containing from 8 to 20 carbon atoms.

In Vopcolene Div. Post

Carl F. Williams recently joined Vegetable Oil Products Co., Los Angeles, as technical director of the Vopcolene Division, which handles the inedible products of the parent company. Mr. Williams was a director of W. C. Hardesty Co., Inc., and manager of W. C. Hardesty Co. and Hardesty Chemical Co. operations at Dover, O.



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- **Completely soften saponification water *without* precipitation.**
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- **Prevent insoluble soap formation.**
- **Eliminate chilling process.**
- **Speed filtration of unsaponifiables.**
- **Prevent oxidation, rancidity, discoloration.**
- **Increase shelf life, inhibit precipitation.**
- **Improve detergency, increase lather.**
- **Insure clarity even in hard water.**
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- **Give "built-in" hard water resistance.**
- **Prevent chalking and rancidity.**
- **Solubilize proteins, saponify fats and oils.**
- **Give "natural" soaps same advantage as synthetics.**

VERSENE* IS VALUABLE

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Wasatch Chemical Co., Salt Lake City, Utah
Barada & Page, Inc., Dallas and Houston, Texas
Associated Chemical Co. of Canada, 14 Durrell Ave., Toronto, Ontario

SOAP PLANT OBSERVER

By John W. McCutcheon

NOW that vacation period is behind us perhaps we can get down again to some serious thinking on soaps and detergents. Like changing gears on a steep hill, it's hard to get started. However, the writer firmly believes that everyone should plan to get away from their work at least for a short period each year if only to visit his mother-in-law. If you are working with ideas, it helps to stimulate a broader approach to the problems, if you are working with routine matters, it relaxes your nerves. Men who take no vacations over a period of years, frequently get an altogether enhanced opinion about their "indispensability." They become surly and hard to get along with. Space cannot be taken here to tell you where the writer went this year. However, he would be glad to write to anyone interested in Northern Ontario fishing and hunting possibilities as he saw them.

In our August column, the present importance of research, due largely to the advent of many new types of products, to the soap industry was discussed. Pure and applied research were mentioned, as were facilities for research presently available through private and endowed institutions. Something should also be said about waste in research. For example, almost the first thing a research worker does in the examination of a new process is to test it in the laboratory to see if the results can be duplicated. This is particularly true of patents, in which the materials, temperatures and pressures may be reported in broad limits. In other cases, the temperatures reported in the original may be uncorrected. The yields may be reported in such indefinite terms as "good" or "satisfactory," which may mean anything depending on the viewpoint taken in the original work. Often essential data may be omitted through lack of publication space, or on purpose to protect patent development work or through ignorance of its importance. The type of information necessary also varies with use. The chemist may be satisfied with temperature and pressure requirements. The engineer may require B.T.U. absorption, latent heats of evaporation, life of the catalyst and other information necessary to a translation of the process into equipment requirements. Where an industry such as that of soaps and synthetic detergents would benefit as a whole by the application of such a process, a great deal could be gained by cooperative effort. Specifically, users and producers of tallow for example could conceivably be benefitted by a cooperative research program on tallow as a non-soap detergent material.



MR. McCUTCHEON

Checking conclusions is of even greater difficulty than checking the original process. For some reason that is not at all clear, there is a general feeling that if the research is done carefully and fully recorded, the author's conclusions from them must also be correct. In many cases this is not so at all. Very often the authors are highly biased in their claims. Since abstracts in general are not critical, they often propagate such an error. This lack of critical review of the literature is probably the weakest link in the recording of chemical research today. There is practically no place for them except in the files of the company studying the research. Very frequently scientific books, where such reviews are in order, make no attempt at correlating the diverse viewpoints on such matters lest they hurt someone's feelings. Here again, the cooperative effort of a group could materially be of help in directing research and eliminating waste effort.

* *

IT WAS noted a short time ago that a plant producing a synthetic detergent powder was having trouble with its filling equipment. The powder was sticking in the hopper although the slope was greater than 60°. The application of a small vibrator solved the problem. Vibrators come in various sizes and are bolted or rivetted to the side of the hopper or pipe. When plugged into an ordinary circuit a vibrating magnet transmits its energy to the bin and prevents clogging. They have been in use for many years. One such type is illustrated in Section 1, Catalog 511 by the Syntron Company, Box 220, Homer City, Pa.

* * *

THE ready availability of research and patent data is necessary in present day investigations. Punched card systems have received wide attention in recent years. Frequently discussions on these systems cover complicated situations which are beyond the scope of the average soaper. A recent visit to International Business Machines Corp. however, revealed a type of service which may be of interest to persons living near large cities where IBM has servicing centers. At a small fee, the company will punch, duplicate or sort cards to almost any desired specification. For example, duplicating 3 x 6 cards punched on any system costs approximately $1.50 per M. Where equipment is available, IBM will also rent out machines on a

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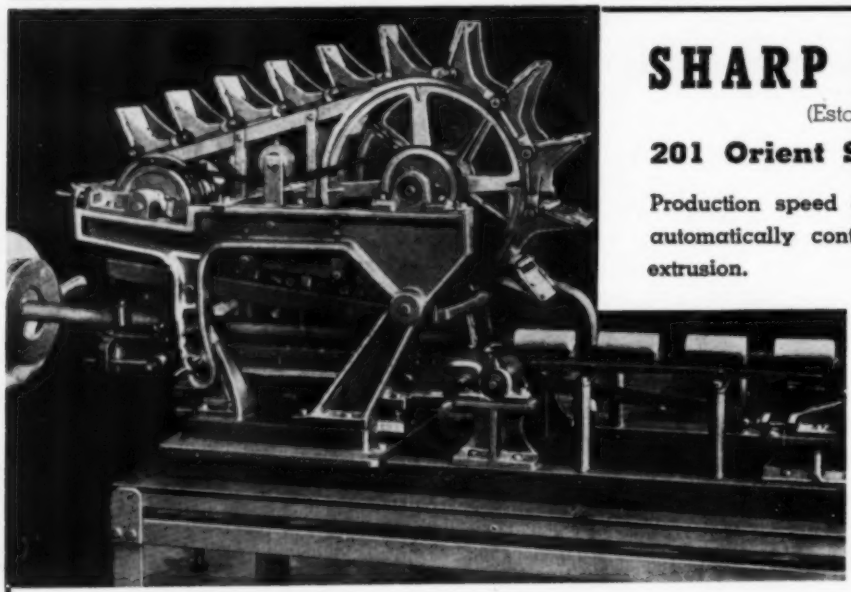
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monthly basis at low rates. An automatic punch, for example, for the standard card which is operated electrically like a typewriter rents for about $25.00 per month. It would pay small research libraries to investigate the possibility of carding its data along such lines.

Bulletin on Lecithin

Properties and suggested uses for "Arcelin," a soybean lecithin manufactured by Archer-Daniels-Midland Co., Minneapolis, are discussed in a new technical bulletin, No. 88. The 18-page bulletin includes the information on the six separate grades of "Arceline" made by ADM. These vary in color and consistency so as to provide a lecithin for almost every industrial purpose. Lecithin possesses two unusual characteristics: it is an efficient emulsifying agent for oil-water systems and it has good wetting and dispersing properties. Copies of Bulletin 88 may be obtained by writing Archer-Daniels-Midland Co., Box 839, Minneapolis 2, Minn.

Booklet Describes CMP

The "ABC's of CMP," an outline in the form of a booklet of the principles and procedures of the Controlled Materials Plan which is effective now was issued recently by the U. S. Department of Commerce, National Production Agency, Washington, D. C. Copies are available from the Department of Commerce in Washington, or at any of its field offices throughout the U. S.

Givaudanian on Florals

Floral notes in perfumery are discussed in the August issue of the *Givaudanian*, house magazine of Givaudan-Delawanna, Inc., New York. The article points out that apart from a half dozen popular floral fragrances (rose, lily of the valley, lilac, violet, lavender, etc.) floral notes have been exploited only occasionally. Other floral odors that might be used are suggested in the article.

The market situation with regard to citronella and lemongrass oils is also considered in the August issue.

S&S Packaging Unit Folder

A folder describing its "Stokeswrap" automatic packaging machine was issued recently by Stokes and Smith Co., Philadelphia, subsidiary of Food Machinery and Chemical Corp. Specifications and applications of the new "Stokeswrap" units are given in the folder, which illustrates the machines and the types of products for which they are used. There is a model "AS" for small packages of powders, granules, etc., and a model "BS" for both small and large packages of similar materials. Typical feeds and special features of the new units are shown in photographs and described in captions. Copies are available by writing the company at 4956 Summerdale Ave., Philadelphia 24, Pa.

New MM&R Price List

A 52-page catalog of its essential oils, perfume materials and related products was issued recently by Magnus, Mabee & Reynard, Inc., New York. The third quarter illustrated price list contains, in addition to an index of products, "MM&R Highlights" and a list of the firm's domestic sales representatives.

Chemical Insect Control

Insect Control by Chemicals by A. W. A. Brown. Published by John Wiley & Sons, Inc., New York. 6 x 9 inches, 817 pages, cloth binding, price $12.50.

Household and agricultural insects and their control are considered in this text, which discusses the various phases of insect control in 11 main sections: "Insecticides of the Mid-Twentieth Century and Their Properties"; "The Structure of Organic Chemicals and Their Toxicity to Insects"; "Susceptibility of Insects to the Entry of Poisons"; "The Pharmacology of Poisons for Insects"; "Equipment Developed for the Application of Insecticides"; "Application of Insecticides from Aircraft"; "Toxicity and Hazards to Man and Domestic Animals"; "Toxicity of Insecticides to Plant Growth"; "Chemical Control of Insects Feeding on Plants" and "Chemical Control of Insects Affecting Man and Animals."

In discussing the various insecticides, the author presents essential facts and theories on the chemical, physical and toxicological aspects of the compounds, and indicates the best insecticides to employ against particular economic insects which attack plants, animals and man. For example, the dangers of calcium arsenate dust for boll-weevil control on cotton are discussed, and the use of insoluble basic copper arsenate suggested as an alternative measure in treating cotton on sandy soils. Sprays containing thiocyanates or pyrethrins are said to be effective in controlling cockroaches, while DDT or BHC is suggested for control of fleas. Each of the main sections is followed by an extensive bibliography, so that a total of about 2300 references are included in the text.

Govt. Defense Loans

A four-page pamphlet explain how private businesses doing defense work can obtain Governmental financial assistance was issued recently by the Office of Small Business of the National Production Authority, U. S. Department of Commerce, Washington, D. C. The pamphlet, "Defense Loans for Small Business," describes working capital assistance in the form of partial payments, progress payments, advance payments and guaranteed loans (Regulation V loans, Reconstruction Finance Corp. loans and Federal Reserve Board loans). Applicants for Federal loans generally must prove their inability to obtain financing on reasonable terms from other sources,—banks, for example, the pamphlet points out. Copies may be obtained for five cents from Printing Services, Department of Commerce, Washington 25, D. C., or from any Department of Commerce field office.

Bottle Washer Booklet

A new bulletin on the U. S. Sanitair Automatic Bottle Cleaner was issued recently by U. S. Bottlers Machinery Co., Chicago. Exclusive new features of the bottle cleaners are described in the booklet which may be had by writing the company at 4019 N. Rockwell St., Chicago 10.

Book Reviews

Perfumes, Cosmetics Book

Perfumes and Cosmetics by Pierre Velon (in French). Published by Presses Documentaires, 28 Rue Saint-Dominique, Paris. 75 pages, 5 x 8 inches, price (300 francs).

This text is divided into two parts, of three and five chapters, respectively. The first part deals with perfumes, covering the natural perfumes, synthetic perfumes and manufacture of perfumes; while the second part is concerned with cosmetics, including discussions on solutions and emulsions, raw materials, creams and lotions, and a general consideration of "make-up" products and dental compounds. The text includes 17 figures and diagrams.

—— • ——

Book on Herbert H. Dow

Herbert H. Dow, Pioneer in Creative Chemistry, by Murray Campbell and Harrison Hatton; published by Appleton-Century-Crofts, Inc., New York; 168 pages, 37 illustrations, bound in cloth; price $3.50.

This book is the story of the life of Dr. Herbert Dow mostly as it concerns the founding and development of the Dow Chemical Co., the family background of the man, his early struggles in getting the company started, his successful competition with the Germans for the bromide market, and the establishment of the company on firm ground so that eventually it was destined to grow to be one of the largest chemical manufacturers in the world.

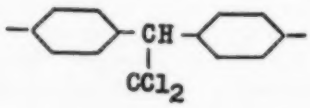
Herbert Dow was born in 1866 in Canada, but of American parents, old New England stock in fact. Much of his later success in chemical engineering undoubtedly grew out of the influence of his father, Joseph Dow, himself something of a mechanical genius. The family moved to Connecticut and stayed there 12 years until 1878, then moved to Cleveland.

Young Dow wanted to be an architect, but Case School of Applied Science where he received a scholarship had no such course. He settled for chemistry. (His son, Alden Dow, is today an eminently successful architect.) Upon graduation, his first unsuccessful venture was the Canton Chemical Co. which made bromine from brine. Failure followed failure, but Dow never quit. In 1890, he went to Midland, Mich. and began anew. In 1897, the Dow Chemical Company was formed after seven years of genuine financial distress. Chlorine followed bromides, and over the years indigo, phenol, magnesium and a host of other chemicals, and the great expansion was under way. The book makes no mention that early faith in Herbert Dow created many a Midland, Mich. millionaire. Dr. Dow died in 1930 leaving behind what in reality were only the beginnings of the present gigantic Dow set-up.

—— • ——

Chemical Age Year Book

The 1951 edition of the *Chemical Age Year Book*, published by Benn Bros. Ltd., London, England, includes an article which discusses the toxic factor in DDT. The article points out that several investigations of factors to which DDT may owe its toxicity have been carried out, presenting a number of theories correlating molecular structure with insecticidal activity. One such theory deduces that the molecular group common to both DDT and methoxychlor should be the one imparting toxicity, since DDT resistant strains of flies are also resistant to methoxychlor. The highest common factor of these two compounds is:



and it is to this group, its toxic action augmented by the lipoid solubility due to the *p*-chlorphenyl groups, that we must look for the toxic factor of DDT.

Still other articles in the text discuss: Transport Factors in the Chemical Industry, and weed control on railroads.

The new year book contains also buyers guides for chemicals, and equipment, as well as a listing of the principal chemical and allied organizations in England, research organizations, and administrative groups in England concerned with the chemical industry.

—— • ——

Fat Processing Volume

Continuous Processing of Fats by M. K. Schwitzer. Published by Leonard Hill, Ltd., London, England. 354 pages, 5½ x 8½ inches, cloth binding, price (30s) $4.50.

Present developments and recent inventions in oil and fat processing techniques are described in this new book on the continuous processing of fats. Statistics and economics are reviewed in the first two chapters; while the next four chapters are concerned with the production, refining and finishing processes of vegetable and fish oils; and the last two chapters deal with production of food fats and soaps, respectively.

Discussions of the production of vegetable and fish oils cover: solvent extraction, performance of the Bollman extractor, performance of other type extractors, reduction processes for oily fish, recovery of oil, the dry rendering process, etc. Illustrations and diagrams of various extractors, extraction plants and other production equipment contribute a valuable addition to this section. The discussion of continuous refining covers the degumming, neutralizing and washing, drying, bleaching deodorizing, de-acidification, and solvent fractionation, presenting various methods and systems for each of these operations.

The chapter dealing with the manufacture of soap and glycerine is devoted to the soapmaking and glycerine purification processes, with brief discussions of the spraying process, high pressure saponification method followed by flash separation, pressure saponification, the Monsavon process,

(*Turn to Page* 157)

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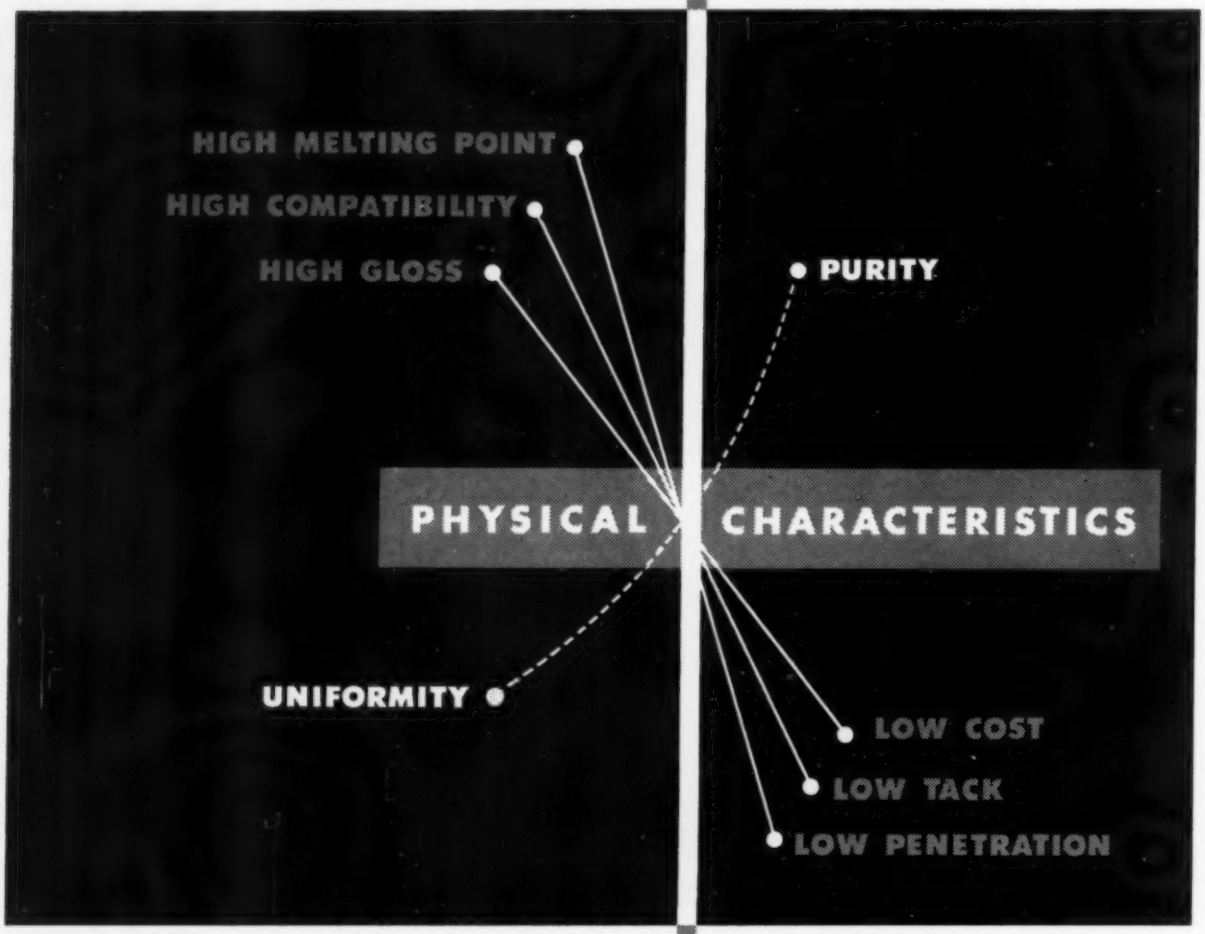
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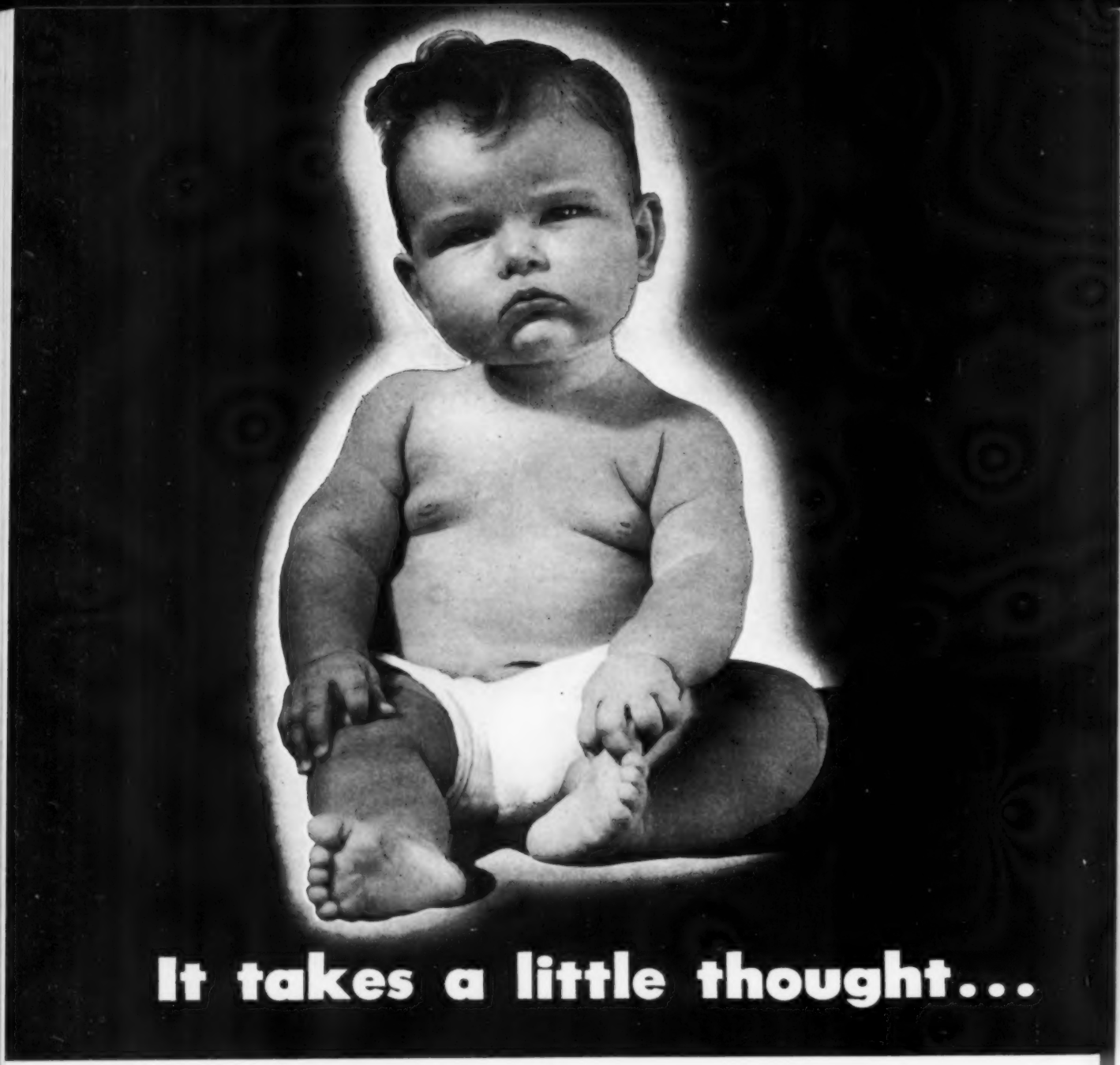
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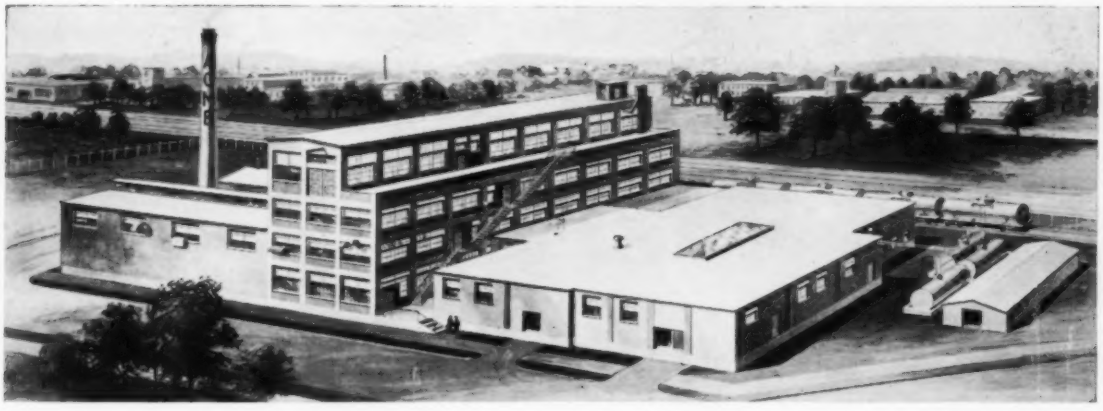
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Insecticidal chemical supplies currently are in short supply and the outlook for supplies in the immediate future is not promising. Often, you can stretch your stock of these chemicals by substituting less scarce materials for those more difficult to obtain in out-of-the-ordinary applications. For example: DDT, well-known for its effectiveness in household sprays and in controlling farm pests, is being suggested for use against termites when employed in a 5% oil solution and applied as a ground toxicant.

For information on the broad uses of Monsanto insecticidal and herbicidal chemicals, contact the nearest Monsanto Sales Office or write: MONSANTO CHEMICAL COMPANY, Organic Chemicals Division, 1700 South Second Street, St. Louis 4, Missouri.

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2,4-Dichlorophenoxyacetic Acid (Isopropyl Ester)
2,4,5-Trichlorophenoxyacetic Acid
2,4,5-Trichlorophenoxyacetic Acid (Isopropyl Ester)
Santobrite (Sodium Pentachlorophenate, Technical)
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Sodium Trichloroacetate

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Methyl Salicylate, U.S.P. (Synthetic)
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ONYXOL 336

Combining High Viscosity
Foaming . . . Wetting
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THICKENS . . . aqueous solutions exhibit high viscosity without use of additives.

FOAMS . . . copiously providing highly stable small bubbles.

CLEANS . . . both hard surfaces and textiles.

EMULSIFIES . . . most common oils.

RINSES . . . easily with good drainage on dishes and glassware.

Suggested for use in industrial cleaning compounds . . . shampoos of all kinds . . . bubble bath preparations . . . cosmetics . . . buffing and polishing compounds . . . wettable sulfur . . . polishes . . . pigments . . . foam fire-fighting solutions . . . ore flotation solutions . . . household liquid detergents for dishes and laundry.

Write for
Technical Data Sheet
No. Ind. 9

onyx

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INDUSTRIAL DIVISION
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West Coast Representative: E. S. Browning Co., San Francisco, Los Angeles

DUREZ RESINS



improve all the PUBLIC wants in no-rub liquid polish

- Slip resistance
- Hardness
- Gloss retention
- Water resistance
- Wearability
- Shelf properties
- Economy

● Not many years ago liquid polish makers had to face a double problem: the supply of raw waxes was slowing down and the price was rising. But chemists were already at work on a highly successful solution to both parts of the difficulty. The answer was terpene phenolic resins, developed by Durez in cooperation with leading liquid polish producers.

Resins Improve Product

These Durez resins have a compatibility with natural and micro-crystalline waxes that makes them ideal for blending with either type of wax, or both. Properly formulated resin-bearing wax emulsions have all the properties demanded by consumers to an outstanding degree. The polishes are notable for hardness and slip resistance. Gloss retention, spot resistance, wearability are enhanced, and the product stores without loss of these properties.

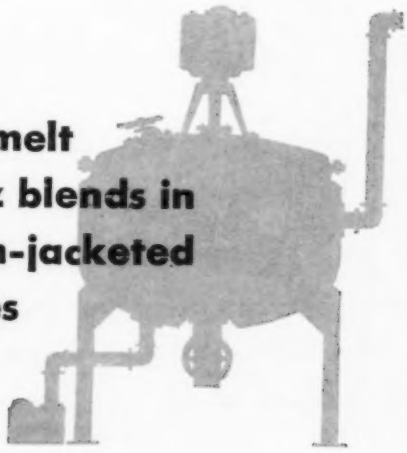
Since the resins are commonly used in concentrations of from 25% to 50% of the total wax-and-resin portion of the emulsion, their comparatively low cost is also a factor. Resin-bearing polishes give excellent value for the floor-maintenance dollar.

Blend in Standard Kettles

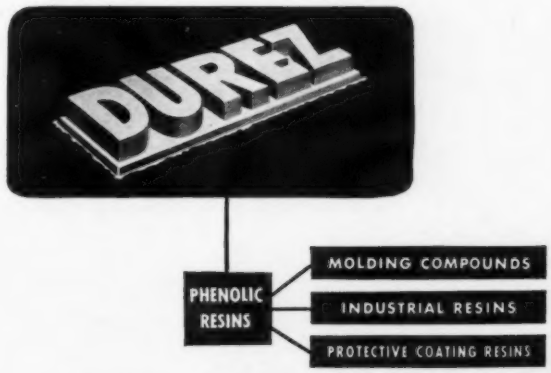
Blending in ordinary steam-jacketed equipment is common practice since Durez introduced the modified 13560 and 14140 resins. These resins have a melting point of about 90°C. Both have exceptional hardening ability, particularly in formulations containing micro-crystalline waxes. Being made from a higher melting point base resin, Durez 14140 produces harder films with less tack.

Data and Help Offered

We have compiled a file of practical suggestions based on our extensive research work on formulations and methods of making emulsions and controlling properties. A copy is available on request. The facilities of our Customer Service Laboratory are available for consultation. Write Durez Plastics & Chemicals, Inc., 409 Walck Road, North Tonawanda, N. Y.



Low-melt Durez blends in steam-jacketed kettles



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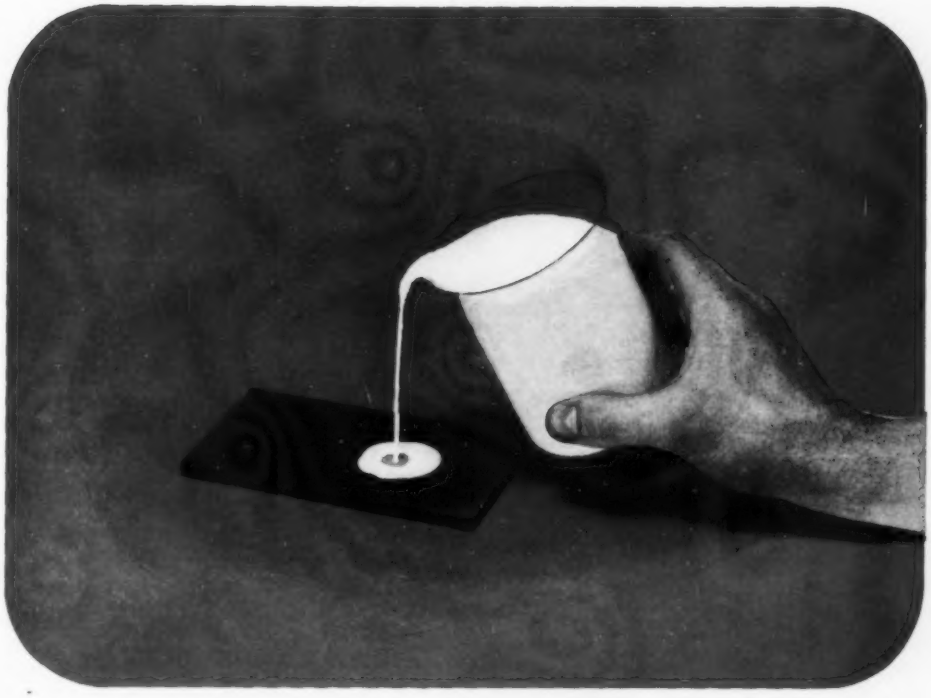
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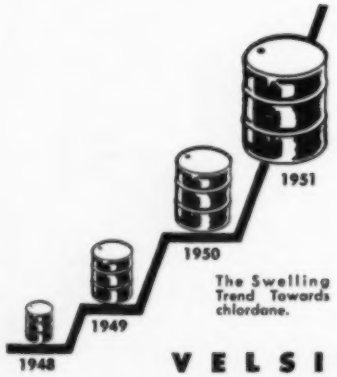
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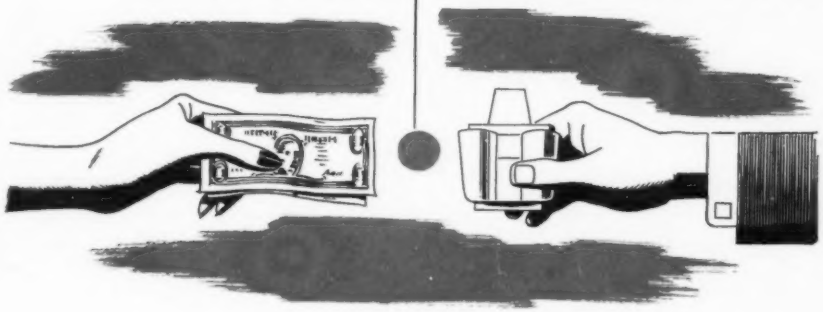
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BUGS are in for the surprise of their lives. *They're going to zoom into allethrin, the new insecticide ingredient. It looks like especially bad news for many of the insects that pester you most.*

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Until now this type of insecticide came from flowers picked by the natives in Asia and Africa. But *allethrin is an all-American product,** synthesized under scientific controls and has the definite advantages of uniformity in strength and quality.

It is only natural that the people of Union Carbide pioneered in the production of allethrin on a commercial scale. For they were already making most of the needed chemical ingredients.

As a result, Union Carbide is already providing allethrin in ever-increasing quantities to manufacturers of household and dairy sprays and aerosol bombs. Researchers all over the country are now engaged in testing allethrin for the control of agricultural pests and for other purposes.

**THE FORMULA* *and first laboratory production of allethrin were discoveries of the U. S. Department of Agriculture. Extensive testing of the new chemical was done by the Boyce Thompson Institute. First commercial production of allethrin was an achievement of the people of Union Carbide.*



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SANITARY PRODUCTS
A SECTION OF SOAP

ENGAGED in floor wax manufacture on an "experimental" basis for the past three years, the Government, we are informed, plans to retire from the business and shut down its plant. Of late, the U. S. Government Public Buildings Service has been producing floor wax at its private plant to the tune of 30,000 gallons yearly. This has been used in public buildings in and around Washington, about a quarter of the total going to wax the floors of the Pentagon, the world's largest building. Recent warnings issued by the Department of Defense to military and civilian personnel in the Pentagon against the dangers of slipping on its waxed floors again focused attention on the PBS wax-making "experiment."

Further to complicate the problem for private industry, a rumor was in wide circulation around Washington last month that this wax "experiment" was to be broadened to take in liquid soaps and insecticides for government use, and that "sales" by PBS were to be extended to additional government agencies. A strong protest by the Chemical Specialties Manufacturers Association was filed with PBS and brought forth prompt assurances that (1) they had no intention of going into liquid soap and insecticide manufacture, and (2) they would quit the floor wax manufacturing "experiment."

That this wax making project has no place in our government should be quite apparent to almost anyone, we believe. That it also might not have been as successful financially as reported, we are inclined to suspect, having viewed similar government "experiments" in the past. We would like to see a balance sheet on the operation to date. And we imagine that a lot of floor wax manufacturers who pay taxes would likewise be interested. But, irrespective of the finances, this out-and-out socialistic venture never should have been allowed to start. CSMA action, effective and to the point, deserves the commendation of every independent manufacturer and taxpayer in the country.



SINCE man first began to wear shoes of one sort or another, the shoemaker's children traditionally have gone barefoot. How well this reminds us of the sanitation facilities in some of the sanitary supply establishments which upon occasion we have visited across the country. Viewing the beautiful pictures in the catalogs of some of our good friends who make and sell sanitation chemicals, we must admit that we have received some very rude shocks in visiting their lavatories and rest rooms. There we have found empty soap and towel dispensers, odors far distant from attar-of-rose, and other indications which bespeak insufficient attention,—not to mention dirty or unwaxed floors, and unwashed windows including sometimes the one bearing the lettering "sanitary and cleaning supplies."

Realizing as we do that customers are infrequent visitors, we might be inclined to discount the situation from a practical angle. At the same time, we wonder if it's good business,—if model washrooms and floors might not be an employe morale builder. All of which reminds us of the minister who was spotted by one of his flock inhaling a quick one in the rear room of a local pub. Admonishing the spotter for imbibing, the clergyman reminded him that it was his duty to "do as I say, not as I do." Maybe some of our sanitary supply people also are just too busy to practice what they preach.









What it takes to keep the

Eastman Kodak Co.

MOST modern plants are kept very clean, but few can reach the degree of dustlessness and absence of other types of dirt achieved at Eastman Kodak Company in Rochester, N. Y. Here cleanliness is a major requisite in most production operations and it follows through in all departments of plant and office as a company policy and practice. The nature of many Eastman products makes this plant unusual and cleaning operations are sometimes carried out in novel ways.

The largest plant in Rochester is "Kodak Park," which was originally four small buildings but now has 110 large buildings, covers 400 acres of land and employs 19,000 men and women. "Hawk-Eye," the lens division, was opened in 1911 and employs 4,000. All divisions of the Eastman Kodak Company in Rochester employ about 32,000 men and women. Kodak's excellent research laboratories were opened in 1912.

Since 1920 a plant has been owned in Kingsport, Tennessee, where Eastman now manufacturers plastics, industrial chemicals, and synthetic fibers—Koda filament and Teca staple fibers. Throughout the United States and many foreign countries are Eastman subsidiaries and distribution outlets.

As may be expected cleaning operations in such a company are varied and highly important. Part of the Kodak Park program that has been set up is called the "Sanitation Inspection Program," and the Industrial Engineering Department believes that this demand for work that must at all times stand exact inspection has definite advantages. Five reasons have been given for this:

1—It makes cleaning and maintenance personnel realize the impor-

Photo (upper left) shows a single disk polisher. A buffing operation is under way to polish the floor, but the machine can also be used to scrub the floors with a detergent. Lower left is an auto scrubber. This machine puts down a detergent, scrubs the floor, and picks up the detergent as it moves along. It will clean corridors of the type pictured at a rate of about 90 to 160 feet a minute.

Photo (left) shows a wall washing machine in use. A carefully selected synthetic detergent is used in this machine.

A two-way dust mop in use (right) in the new color building at Kodak Park. The base of this mop is equipped with a swivel which allows the operator to change from the long to the wide use of the mop with a flip of the wrist.

Plant Spotless

By Ethelyn Weller

tance of their work, which, in turn, raises their morale and increases their efficiency.

2—It causes departmental personnel to be conscious of the cleanliness in the department and creates an atmosphere of cooperation within the department and a friendly competition among departments, which tends to maintain good morale and results in a minimum of cleaning costs.

3—It serves as a guide for supervision of all cleaning work.

4—It is used as an indirect control on departmental cleaning and maintenance costs.

5—It tends to reduce large maintenance jobs, due to the periodic inspections.

This program is based on a rating system which lists the necessary cleaning considerations of each department. It, too, follows a regular routine:

1—A check list is prepared, which notes the important points to consider while rating a department.

2—Initial rating is then done by three unbiased members of the department and a member of the Industrial Engineering Department. After this first rating only the three members of the department continue these ratings.

3—Standards used for rating are listed according to cleanliness, order and surface maintenance, and limit the degrees of perfection for each element.

4—Each department is separated into divisions—such as rest rooms, locker rooms and wash rooms; office areas; production or work areas and storage spaces.

5—These separate ratings are then multiplied by a constant and predetermined factor which is the ratio of the area to the total area. The three separate ratings are then added to give the total rating for a department. (Chart #1.)

6—Another chart shows ratings over a specified period of time and makes comparisons of the three areas. (Chart #2)

The first steps in setting up schedules prior to inspection are an inventory sheet (chart #3); data sheet, which reckons the time allowance for one man to do a cleaning job of a specified area or number of pieces of equipment (chart #4); a special work sheet based on facts established in chart #4 for one person's time for a week or month, according to the department (chart #5); and lastly, a sheet that sets up the schedule of one man's cleaning operations for one week, according to a 24 or eight hour shift, called a "trick" at Eastman's (chart #6).

All cleaning schedules are worked out from these ratings and

Chart 1

SANITATION RATING SHEET*

Department XYZ
Area Production

Element	Considerations: Cleanliness	Order	Surface Maintenance	Rating
Floors	20 27 28 25 24 23 22 21 20 19 18 16 14 12 10 8 6 4 2 1 0	7 6 5 4 3 2 1 0	7 6 5 4 3 2 1 0	82
Equipment	15 14 13 12 10 9 8 7 6 5 4 3 2 1 0	3 2 1 0	7 6 5 4 3 2 1 0	85
Walls and Overhead	6 5 4 3 2 1 0	3 2 1 0	3 2 1 0	13
Lighting Fixtures	3 2 1 0	Not Rated	3 2 1 0	7
Windows	3 2 1 0	Not Rated	3 2 1 0	5
Outside Areaways	3 2 1 0	3 2 1 0	3 2 1 0	5

Circle rating of each consideration of each element, and then add all ratings.

Total Rating 95
Factor .85
Actual Rating 81

*REMARKS:
Conduits need painting, 2nd fl., SE corner
Drains need replacing, 2nd fl., SE corner
Dust on the windows throughout department
Trash on the Receiving platform
Too much material piled on the platform

Chart 2

Illustrative Example

Present Rating of Department XYZ

	Total Rating	Factor	Actual Rating
Production Area	95	.85	81
Office Area	93	.10	9
Locker & Wash Rooms	90	.05	5
			95

Actual Ratings of 4 Previous Weeks

95
96
95
97

1634 or 95 per week as the average

Percentage of goal for comparison with other departments

Present rating divided by average of the four previous ratings.

$\frac{95}{95}$ x 100 = 99

Superintendent could be supplied with the following:

1. Trend charts show his departments Sanitation record over a period of time
2. A listing showing his department Sanitation rating in relation to the other departments in the division.
3. A listing showing the division's Sanitation record in relation to other divisions.

Chart 3

INVENTORY SHEET

Location: Room No. _____ Title _____
Floor:
Ceiling:
Walls: Type
Lights:
Windows:
Extra Glass:
Doors:
Miscellaneous Equipment:

3/4/51

DATA SHEET

Bldg. No. ____ Floor ____ Location ____

Element	Operation	Code No.	Time/ Unit	No. of Units	Time/ Occ.	Frequency D	W	M	Total Operation Time Daily	Wkly.	Mthly.	Other
Floor	Sweep											
	Vacuum											
	Dustmop											
	Mop											
	Wax											
	Buff											
	Scrub											
Ceilings	Clean											
	Dust											
Walls	Clean											
	Dust											
Cable	Clean											
	Dust											
Windows	Clean											
	Dust											
Glass Mass	Clean											
	Dust											
Miscellaneous												

Chart 4

CLEANING WORK SCHEDULES

BLDG. NO. ____ TRICK ____ ROUTE NO. ____

OPERATION & LOCATION	MON.	TUES.	WED.	THUR.	FRI.	SAT.	SUN.

Chart 5

specifications and an exhaustive record is kept of the requirements and cleaning operations of every foot of the millions of square feet of floor, wall and ceiling space and all equipment. Different types of floors, walls and ceilings demand that many products and methods be used for their cleaning. In many areas the nature of the product manufactured in it may dictate the cleaning product and program.

Floors are of concrete, "Tiletex," terrazzo, rubber tile and wood. In some buildings there are floors covered with battleship linoleum. Most of the floors, however, are of a concrete with a high silica sand content, which gives them a hard, non-porous surface. After vacuuming, each type of floor must be treated in a way to give it the maximum in cleanliness and good appearance.

Some floors are simply dust mopped and washed. Synthetic detergents are preferred for this as they have a low or neutral pH and may be purchased in easily stored bulk lots. Soap sometimes gives off contaminating fumes.

Linoleum and concrete floors are waxed once a month in 60% of the cases. They are dust mopped and occasionally wet mopped with cold water. Terrazzo floors are scrubbed with a scrubbing machine and a synthetic detergent; mastic floors, which cannot be mopped, are kept clean with dampened sawdust, or with sawdust that has been treated with a light paraffin oil. This latter must be done carefully as these floors offer little penetration and the oil must not stand on them.

Where floors are waxed, a water emulsion wax is used. This type is preferred because, while softer than some types, it has a good finish, both attracts and controls dust and there is less danger of employes slipping on it than on a very hard wax finish.

In offices, desks are covered with linoleum. These are wiped off with a cloth dampened in water or light oil and air dried. It is desirable that they dry without streaking. Much of the machinery in the plant is treated in the same way.

Walls are of many types—glazed and unglazed tile, plain and painted brick, "Masonite," plaster, glass brick, steel partitions and many with painted surfaces. All types are washed with a good synthetic detergent, some with machines, others with cellulose or sheep's wool sponges, depending on the smoothness of the surface. Occasionally they are wiped off with a clean cloth or one dampened with the light oil. They are dust mopped sometimes, a clean dust mop often being used for this purpose. The type of the wall decides the type of cleaning operation necessary.

Ceilings for the most part are concrete. These are vacuumed, washed by machine or wiped off with wet rags.

Other things that must be considered are lights—incandescent, fluorescent and safelights; windows; glass in partitions and doors, and such miscellaneous areas as filing cabinets, room furnishings, mirrors, shelving, columns, drinking fountains, lockers, waste containers and the various furnishings and equipment in all wash rooms. These, too, have their special methods for cleaning. Wherever possible vacuum cleaners are used, some areas may be washed with a good detergent (soap or synthetic), while others may be wiped off with dampened or oil treated rags. Where abrasives are needed, as for washbowls, etc., an all-purpose, grease dissolving type of abrasive is used.

Employes are considered wherever cleaning materials can cause roughness of hands or other discomfort. Hand lotion dispensers are set up in some departments for use of

Chart 6

BLDG. SERVICE SCHEDULE

ALLOWED MINUTES:

BLDG.	FLOOR	LOCATION	C. 1 & 2 CLEAN WALLS	C. 1 & 2 CLEAN OVERHEAD	S. 1 SWEEP FLOOR	M. 1 MOP FLOOR	S. 1 VACUUM FLOOR	W. 1 WAX FLOOR	D. 5 DUST-MOP FLOOR	D. 1-5 DUST EQUIP.	C. 3-5 GENERAL CLEAN	MISCELLANEOUS

workers, and there are frequent dermatology and toxicology checks made by plant medical authorities.

Two approaches have been suggested for this giant cleaning program, preventive and corrective. The first prevents dirt from getting into the area; the second shows ways to clean up dust or other undesirable materials once they have gotten into an area. Training for this work is on-the-job. Each new employe goes with a more experienced man, observes his methods and asks questions. His teacher instructs as they go along. Each employe is given a manual which lists and describes almost every item that will be used in any way in a cleaning operation. The new employe studies this, also, and is usually ready to go on alone in a few days.

On the "A" shift is a porter or matron who assists in maintaining the required level of cleanliness. He watches mirrors, washrooms, cafeterias and some production areas, and gives a quick cleaning touch if necessary between regular cleaning jobs.

To facilitate these cleaning operations by keeping floors as clear and uncluttered as possible, the newer washbowls are hung on the walls, lockers are set on solid concrete pedestals instead of on short legs and benches are anchored from a central place.

Industrial Engineer W. E. Hawkins has been working on this program three and a half years and says that there is still much to do. Before setting up this schedule, Mr. Hawkins visited other large plants which had similar programs and put the Kodak set-up on a sound engineering basis.

Cleaning costs at Eastman range from a few cents to a dollar a square foot, according to circumstances and areas.

All this would seem like a big cleaning job, but there are still many more very important factors that must be considered. There are departments where a speck of dust or a light as small as a spark from a vacuum cleaner can spoil valuable materials. There are departments where the flammable materials used might be ignited by the same spark. For these latter areas electrical equipment must be totally enclosed to make them vapor and explosion proof. Scrubbers and vacuum cleaners must be enclosed to guarantee against any sparks producing light.

There are also departments where employes work under green lights in extreme darkness, entered through a series of heavy curtains with bells along the sides that serve as a warning when someone is entering or leaving. In still other departments work is done under faint red lights. All these areas are cleaned regularly, usually when they are closed down, with lights on and their materials stored in dark rooms.

The emulsion departments must be as near dust free as possible. To ensure this, it is required that employes change from clothing worn into the plant to lint-free garments supplied by the department. To as-

(*Turn to Page* 157)

Tools - Material & Equipment Used

ITEM	USE
Broom, push—18" or 24" Bassine—Milwaukee Dustless Brush Co.—Speed Sweep.	Platforms, inside and outside.
Brush, counter—8" hair Pittsburgh Plate Glass D25 or Ox Fibre Superior.	Window sills, desk tops, radiator tops.
Brush, push—18" or 24" hair Ox Fibre Justrite or Osborne 219.	Floor areas—inside.
Brush radiator—Fuller No. 1123.	Radiators, grills, venetian blinds.
Brush, scrub, desk squeegee 14" Palmyra fibre with squeegee attached—Wright-Bernet.	Floor and platform scrubbing where power equipment is not available or cannot be used.
Atlantic Squeegee or Fuller No. 451Q.	
Brush, scrub hand 8" Palmetto fiber—Osborne 676.	Same as above.
Wright-Bernet Major 8 or Ox Fibre Goose.	
Brush—bowl wire bound. Union Fiber Union Brush Co. Bowl brush No. 24.	Sinks, urinals and bowls.
Brush — window — 9½" hair Wright-Bernet Professional or Ox Fibre.	Windows, floors, under low cabinets or lockers.
Cleaner-paste utility—Temp.	Walls, metal fixtures and ducts.
Cleaner — powder utility. Tri-sodium phosphate or "Dek."	Used in water solution for mopping and washing operations.
Cloth, dust treated with oil—E. K. No. 2012.	Wiping and dusting operations.
Compounds, sweeping.	Dust control in areas not vacuumed.
Sawdust or shavings and oil (EK 2012).	
Sawdust or shavings and water.	
Deodorizing agent.	Deodorizing wash and lounge room fixtures.
Dichlorite cakes.	Disinfecting wash and lounge room fixtures.
Disinfectant agent, K. P. disinfectant.	Mopping and waxing operations.
Handle mop, clamp type. White No. 96.	
Handle mop, screw type. White No. 93.	Mopping and waxing operations.
Insecticide—Vaposector.	Insecticide control.
Lotion, Hand—Industrial. Laboratory lotion.	Dry and chapped hands.
Mop, cotton, wet 4-ply. Fuller 16 oz. or 32 oz.	Mopping and waxing operations.
Mop—dust. Industrial Tu-Way dust mop.	Dusting operations.
Soap, hand. (1) Packwood S.B.S. 11. (2) Sulpho Hand Cleaner. (3) Liquid soap.	Mild abrasive for general use. Abrasive for grease and heavy dirt. Office and women's wash room.
Squeegee floor—Kodak Park or White No. 220.	Moving surplus water or other solutions to a disposal place.
Tank assembly—mop. White.	Mopping in large areas.
Wringer, pail assembly. Geerpress.	Mopping and waxing operations of small areas.
Vacuum—portable.	Dust and dirt pick-up from floors, walls, ceilings, and other items of furniture.
Wax, cream—Johnson.	Cleaning and polishing furniture.
Wax—Floor. West—"Kwyk-Wax." Walter Legge Co. "Safco."	Floor finishing.

Disinfectants for

By C. Richard Smith, M.D.*

WHILE the death rate from tuberculosis has been reduced from 194 per 100,000 persons in the year 1900 to 26 in 1949 (in the United States), this disease still kills more people in young adult life than any other. Tuberculosis today kills more persons each year than all other infectious diseases combined.(1) Prevention of the spread of tuberculous infection by hygienic measures continues to be one of the major considerations of public health. Prevention is more important than treatment. The use of disinfectants is one valuable weapon in the prevention and hygiene of tuberculosis.

We do not know everything about how tuberculosis is transmitted. We do know a great deal, however, and it is generally believed that with the knowledge at hand and sufficient resources it will be possible not only to stop the spread of this disease but to wipe it out.

How TB is Transmitted

MOST tuberculous infection is believed to be transmitted from the lungs of the consumptive to the lungs of the victim by airborne particles.(2) The tuberculous pulmonary cavity is the principal source of infection. Its inner wall, made up of necrotic tissue, provides an ideal culture medium with an abundant supply of oxygen where tubercle bacilli grow in billions. The pus that forms and is coughed up as tuberculous sputum is teeming with highly virulent microorganisms. With cough, some of this material is sprayed into the air in the form of droplets. Some of the droplets contain tubercle bacilli.(3) The finest of the droplets can be inhaled into the depths of the lungs of the victim.(4) Droplets less than 0.1 mm. in diameter lose their moisture before they sink to the floor and thence as exceedingly light "droplet nuclei" may float in the air for hours and are readily available for inhalation directly into the lung alveoli. (5) Cough droplets or gross sputum contaminating clothes, bedclothes,, floors and other surfaces may, on drying and following mechanical agitation, rise into the air as tubercle bacillus-bearing dust.(6,7)

Secondary in importance is infection by way of the intestinal tract. Bacilli getting into the mouth are likely to be swallowed. Droplets landing on the lips or lodging in the throat; contaminated hands, food, eating utensils; and mouth kissing are possible means of transference. Contaminated milk is a minor source of infection in the United States due to the low incidence of tuberculous cattle and the general practice of pasteurization of milk.

Infection by way of the lymphoid tissue of the nose and throat and by other routes is still less common.

Other infectious materials include pus from fistulae or draining sinuses, urine from tuberculous kidneys, feces in all cases of open pulmonary and intestinal tuberculosis, pleural fluid, spinal and joint fluid. In the laboratory, open cultures of tubercle bacilli and tuberculous animals must be considered.

Aims and Weapons of Hygiene

THE hygiene of tuberculosis should be aimed at the prevention of the availability of tubercle bacilli for inhalation or ingestion. This means controlling the discharge of microorganisms by the patient, the prevention of contamination of clothes and surfaces, removal or destruction of bacilli where contamination occurs, elimination of airborne particles, and protective procedures for contacts. Mouth covering during cough and collection and incineration of expectorated sputum are basic. Ventilation, cleansing, heat and disinfection are essential.(8,9) Unfiltered sunlight or even daylight(10) are protective. Although there is suggestive evidence,(11,12) the value of artificial ultraviolet light and aerosols in the prevention of air-borne infection is not established. Masks, caps, gowns, handwashing and hand disinfection may be employed to protect the attendant or contact.

Place of Disinfectants

DISINFECTANTS are valuable to decontaminate surfaces and articles that do not lend themselves to heat decontamination. Heat is the best and safest method of destroying tubercle bacilli but it is not always applicable. Disinfectants find important use in the hospital, the clinic, the sanatorium, the home and in the laboratory. Their employment as anti-tubercle bacillus agents in public buildings is less well defined. They have a place in the disinfection of bedside surfaces, enamelware or glassware used by the patient or in the laboratory, installed plumbing facilities, badly contaminated linen or clothing (in some situations), gross spills of sputum or other infectious material, floors, hands, thermometers and surgical instruments.

Characteristics of the Bacillus

MYCOBACTERIUM tuberculosis is characterized by an unusually high lipid content. Probably for this reason it is unusually tough and resistant. It may live for many months in sputum or in otherwise moist state in the dark, and for weeks in the dark in the dried state.(10) M. *tuberculosis* is more resistant than many pathogenic bacteria to some chemicals such as acids, alkalies, soaps and synthetic detergents. For this reason it is not safe to make claims for the anti-tubercle bacillus effect of a given disinfectant on the basis of its activity against other bacteria. Moreover, the anti-tubercle bacillus potency of disinfectants cannot be predicted with certainty from the results of tests on non-pathogenic varieties of *mycobacteria*.(13) For instance, some non-pathogenic acid-fast

* Presented before 37th mid-year meeting of the Chemical Specialties Manufacturers Assn., Chicago, April 30, 1951.

Tuberculosis Hygiene

Barlow Sanatorium, Los Angeles

bacilli have been found susceptible to the action of the quaternary amine salts while virulent tubercle bacilli are not safely killed by these compounds. (14) *Mycobacterium spp.* No. 607 of the American Type Culture Collection is not a tubercle bacillus. (15) I would strongly advise claims for tuberculosis disinfection to be based on experience with virulent tubercle bacilli.

Under natural conditions, tubercle bacilli are always accompanied by protein in the form of mucus, pus, or serous fluid. It would therefore seem advisable that candidate disinfectants be finally tested against tubercle bacilli in the presence of sputum or other exudates and under conditions closely simulating nature.

Another consideration in the evaluation of tuberculosis disinfectants is that the usual methods of testing are not entirely applicable. (13,16) This is due to the special nutrient requirements, the slow growth of the tubercle bacillus and its tendency to grow in clumps.

It is advisable at certain critical points to use animal inoculation as a final test of viability and virulence.

Methods: We have been interested in disinfectants for tuberculosis hygiene over a period of years. This has led us to test the activity of various preparations that have been considered for use in our sanatorium. Except in part, our studies have not been comprehensive. Yet a review of our experiences may be of some interest and aid to those engaged in this field.

Techniques: Preliminary Screening Test: Tubercle bacilli in suspension are exposed to a solution of the disinfectant at room temperature (20°C) usually for a period of 10 minutes. Aliquots of the bacillus-disinfectant mixture are then planted on culture medium. The number of colonies developing is compared with that in the controls. When growth does develop, that disinfectant dilution is considered insufficiently potent. When growth is completely suppressed it may be due to a true kill during the exposure period or to a persisting effect, bactericidal or bacteriostatic, after culture.

One thousandth mg., moist weight, of a 3 to 4 weeks old culture of strain H37Rv* in 0.1 ml. is mixed with 10 ml. of the disinfectant solution. One-tenth ml. amounts are planted on each of 2 tubes of Loewenstein-Jensen medium. Usually 3 such tests are run per dilution. In the controls, distilled water, the solvent or dispersing agent replace the disinfectant.

Dilution Test. A tenth ml. portion of the primary bacillus-disinfectant mixture is diluted in 10 ml. of water. A third dilution is carried out in the same manner giving a final dilution 10,000 times that of the original solution.

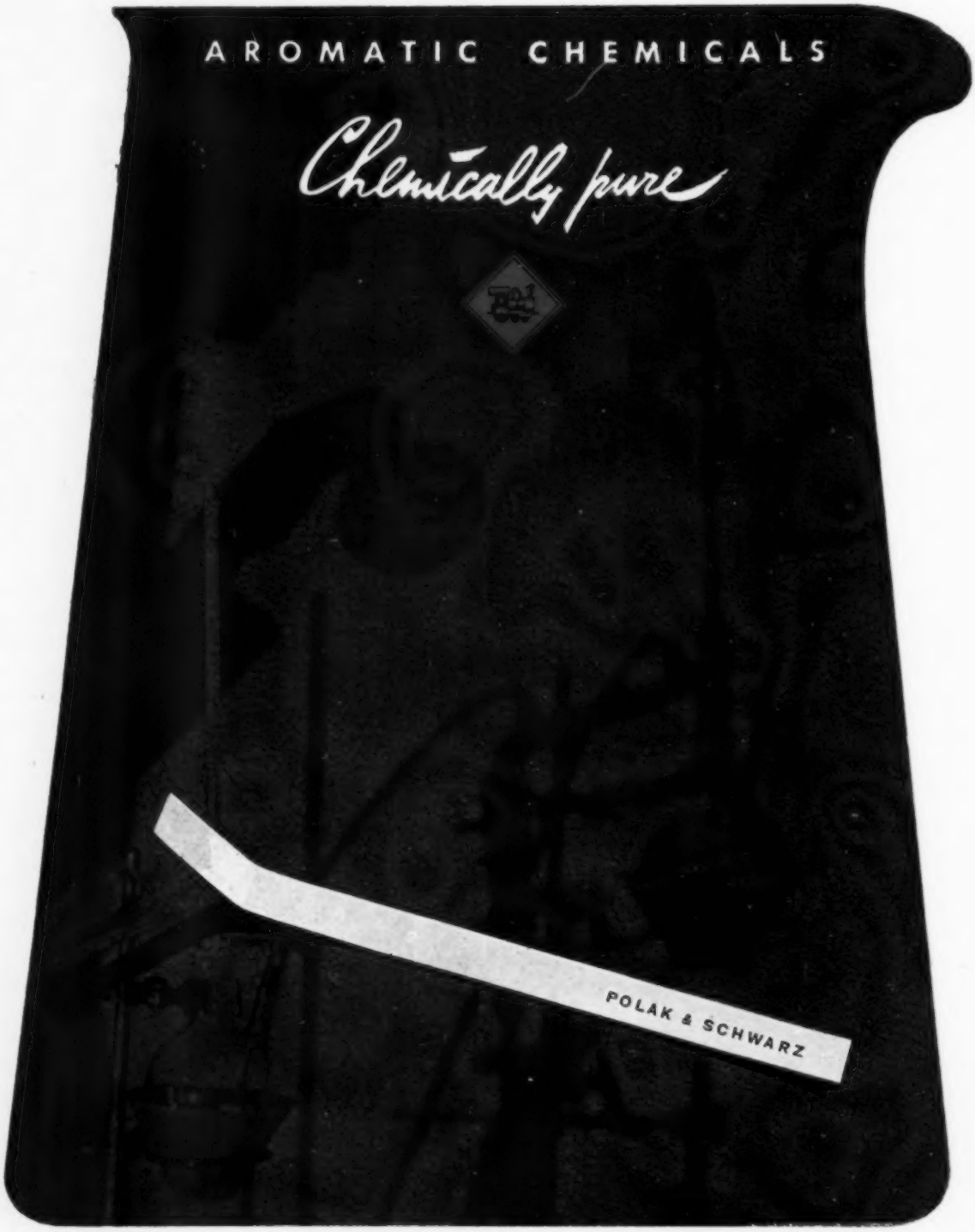
It is necessary in the dilution test to start with a larger mass of

* Obtained from Dr. William Steenken, Jr., Trudeau Sanatorium, Trudeau, New York.

TABLE 1
The Antitubercle Bacillus Activity of a Few Well Known Surface-Active Agents[14]

Designation	*Source*	*Composition*	*Type*	*Growth-Preventing Effect in Per Cent Dilution* 1:100	1:1000
Soft soap U.S.P.		Potassium salts of fatty acids	Anionic	0	
Hard soap		Sodium salts of fatty acids	Anionic	45	15
Aerosol OT	American Cyanamid Co.	Sodium dioctyl sulfosuccinate	Anionic	21	5
Santomerse D	Monsanto Chemical Co.	Sodium decylbenzenesulfonate	Anionic	38	39
Victamine D	Victor Chemical Works	Octadecylamine salt of esterified octadecylamidophosphoric acid	Anionic	*100	79
Zephiran	Winthrop-Stearns, Inc.	Alkyldimethylbenzylammonium chloride	Cationic	49	46
Emulsept E607	The Emulsol Corp.	N-(Acylcolaminoformylmethyl) pyridinium chloride	Cationic	34	19
Ceepryn	The William S. Merrell Co.	Cetylpyridinium chloride	Cationic	18	0
Triton X-100	Rohm & Haas Co.	Alkylarylpolyether alcohol	Non-ionic	85	25

* 14% after dilution.



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TABLE 2

The Antitubercle Bacillus Effect of Some Phenolic Preparations
The Highest Dilution Causing Complete Prevention of Growth

Designation	*Composition*	*Screening Test T.B. in suspension Exposed 10 minutes*	*Dried Sputum Smear Test*	
			Dilution	*Time in Minutes*
Liquor Cresolis Saponatus, U.S.P.	Cresol and soap	1:100	1:200 1:100	30 2
Lysol (Lehn & Fink Products Corp.)	Cresylic acid, O-phenylphenol and soap	1:1000*	1:200 1:100	30 10
Osyl (Lehn & Fink Products Corp.)	O-phenylphenol and soap		1:200 1:100	30 2
Amphyl (Lehn & Fink Products Corp.)	O-phenylphenol, p.-tert.-amylphenol and soap	1:1000*	1:400 1:200 1:100	30 10 2
No. 1536 B (Hunt Manufacturing Company)	2, 2'-dihydroxy-3,5,6,3,5,6-hexachlorodiphenylmethane and soap	1:2	<1:2	30
G-11 liquid soap (Givaudan-Delawanna, Inc.)	Bis (3,5,6-trichloro-2-hydroxy-phenyl) methane and soap	<1:25		

* Highest dilution tested.

tubercle bacilli, usually 0.3 to 1.0 mg. which may reduce the effectiveness of the disinfectant.

Exposure of Dried Sputum Smears. A film of naturally "positive" sputum is spread on a coverslip and allowed to dry. The coverslip is dropped into a Coplin jar containing the solution to be tested. At the end of a designated period the film is removed and cultured.

Several tubercle bacillus-bearing sputum specimens are pooled, homogenized and mixed thoroughly. Five hundredth-ml. portions are spread over an area of 6 sq. cm. Recovery is made by shaking with beads in 40 ml. of 0.25 per cent sodium hydroxide. Culture is carried out as above. Usually 3 tests are performed for each disinfectant dilution.

In some cases further dilution to a total of 1600 times is provided by washing the film in 40 ml. of water.

Dried Disinfectant Film. Coverslips are dipped into a 1 per cent solution of the disinfectant and allowed to dry. A loopful of tubercle bacillus suspension (containing 1 mg. tubercle bacilli per ml.) is deposited on the coverslip. After 24 hours in the dark, the bacilli are recovered for culture in the same manner as in the case of the dried sputum smears.

Soaps and Synthetic Detergents

THESE agents are principally of value in cleansing or removal of the major portion of the contaminating tubercle bacilli. A flat statement may be made that, with rare exceptions, soaps and synthetic detergents including anionic, non-ionic and cationic surface-active agents, are not good killers of tubercle bacilli. This applies even to the quaternary amine salts. The statement is partly the result of a study of a large series of representative surface-active agents in which our standard screening test was followed where indicated by the dilution test.(14) Table 1 shows the growth-suppressing effect of some representative soaps and detergents.

The only compound causing complete growth suppression, "Victamine D" at 1:100, was shown by the dilution test to have a chiefly non-bactericidal action.

Dried films of quaternary amine salts also failed to destroy deposited tubercle bacilli. This was true for 2 brands of alkyldimethylbenzylammonium chloride and "Ceepryn."

As a group, the surface-active agents, therefore, cannot be considered disinfectants for tuberculosis hygiene. The failure of the quaternary amine salts is probably due to the high content of lipids and phospholipids of the tubercle bacillus.(17,18)

The Phenols

THE phenols have been for many years and still are the disinfectants of choice in tuberculosis hygiene. (13) Five per cent carbolic acid, the one time favorite, was replaced by the cresols. Cresol-soap mixtures such as Liquor Cresolis Saponatus, USP, and "Lysol" (cresylic acid and ortho hydroxydiphenyl, Lehn & Fink Products Corp.) have a cleansing action which is particularly efficacious in immobilizing sputum, mucus and pus. The ratio of the cresol to the soap is critical.(13) Other disadvantages are the disagreeable odor and precipitation of the soap content by hard water. More recently, non-odorous phenols have been recommended and are beginning to be used. Orthophenylphenol was found to be effective against tubercle bacillus by Tilley, McDonald and Schaeffer and others (19,16) Some of the chloro- and aklylphenols have shown promise.(20,21,22)

Our investigation of the phenols has been limited. We have tested

only a few of the many preparations and mixtures available and these mostly in only a preliminary way. Table 2 gives the results for a few phenolic soap mixtures. These tests do not yield proof of true killing action. The dilution test was carried out only in the case of "Amphyl" where there was complete growth suppression at 1:200, not at 1:500.

The results of tests on a few phenols are shown in Table 3. In agreement with Reichel(23) the sodium salts appear to be less active than the free phenols. Findings are O-phenylphenol are consistent with those of Tilley et al,(19) Zetterberg (16) and others. 2-Chloro-4-phenylphenol deserves further study. We were particularly interested in the results for para-tertiary-amylphenol. Unfortunately, in the dilution test, the results were equivocal for this compound, with complete suppression of growth at 1:1,000 and failure at the 1:200 strength. This irregularity may be related to the higher dosage of tubercle bacilli necessary in the dilution test and to the soap concentration. That para-tertiary-amylphenol may be used successfully in combination with other phenols is shown by the results for "Amphyl." As to its use as a tuberculosis disinfectant alone, I don't feel that our studies have yet yielded sufficient information to make practical recommendations.

Dried films of Liquor Cresolis Saponatus, "Lysol," "Osyl" and "Amphyl" failed to kill added tubercle bacilli. This does not prove completely that such films are not protective because the conditions were somewhat extreme. Yet to my knowledge there is no acceptable evidence to the contrary.

Phenolic soap mixtures may be employed for the disinfection of bedside surfaces, enamel and glassware, plumbing installations, gross sputum spills and instruments. The less odorous preparations can be used for linens where other methods of disinfection are not available. Two to 5 per cent solutions of compound cresol solution, depending on the hardness of the water, may be recommended.(9) Half this strength should be adequate in the case of "Lysol" and "Osyl" and a still lower strength should be safe in the case of "Amphyl." At present we are using 2 per cent "Amphyl" for heavily contaminated glassware and enamelware and certain surgical instruments, and one-half per cent for surfaces and floors. The exposure period is at least a half hour.

Alcohols

PERHAPS next in value to the phenols in tuberculosis disinfection are the alcohols. We have shown that ethyl alcohol, 50 to 70 per cent and isopropyl alcohol, 30 to 80 per cent, kill tubercle bacilli in dried sputum smears in 1 to 2 minutes time at room temperature.(24) Frequently the kill is complete in 15 to 30 seconds. Ninety-five per cent alcohol is best for wet surfaces, 50 per cent for dry and 70 per cent is generally effective for wet or dry surfaces. The presence of water is essential to the action of

(*Turn to Page* 169)

TABLE 3
Antituberele Bacillus Effect of Some Phenols

Compound	*Vehicle*	*Type of Test*	*Dilution* *Complete Inhibition at*	*Dilution* *Fails at*	*Time of Exposure in Minutes*
O-phenylphenol[a]	Water	Screening	sat.sol.		10
Sodium-2-phenylphenate[d]	Water	Screening		1:100	10
		Dried sputum film		1:100	30
P.-tert.-Amylphenol[e]	9 pts. isopropyl alcohol, 3.5 pts. potassium ricinoleate, water	Screening	1:5000		10
		Sputum film dilution	1:5000		30
		Dilution	1:1000	1:200	10
Sodium 2,4,5-trichloro phenate[d]	Water	Screening		1:100	10
		Sputum film		1:100	30
2,3,4,6-Tetrachlorophenol[h]	Sodium hydroxide 0.25 pts. and water	Sputum film		1:100	30
Sodium pentachlorophenate[d]	Water	Sputum film		1:100	30
2-N-Hexyl-4-Chlorophenol[c]	Sodium hydroxide 6 pts. and water	Screening		1:10,000	10
		Sputum film		1:10,000	30
2-Chloro-4-phenylphenol[d]	Water	Screening	sat.sol.		
Sodium bis (5-chloro-2-hydroxyphenyl) methane (g-4-40) g	Water	Screening		1:100	

c. Dr. Cyrus Guss, d. Dow Chemical Company, e. Eastman Kodak Company, g. Givaudan-Delawanna, Inc., h. Hunt Manufacturing Company.

Lindane...

A review of the background and development of this modern and versatile insecticide

By G. S. Hensill

California Spray-Chemical Corp.

THE insecticide lindane for many reasons, can be considered to be the most modern and versatile of those in use at present. The origin of lindane goes back to the days of World War II when industry and agriculture were hard put to find organic and chemical substitutes for insecticides such as lead arsenate and others under wartime shortages. While in the United States, DDT was being investigated, retested and put into excellent use in military and later in agricultural channels, the parent compound of lindane, benzene hexachloride was undergoing a like development in England.

Benzene hexachloride, though being the parent compound of lindane, is quite far removed from it in its properties and characteristics. The material developed in England during World War II, and used there throughout the war, was a commercial grade containing not over 13 per cent of the gamma isomer and approximately 87 per cent of the other four isomers in mixed proportions, plus a small amount of other related impurities. It was soon learned that the gamma isomer was the only part of the mixture having any value as regards insecticidal action and that the other isomers only imparted odor, or other undesirable properties and often resulted in taste or odor residues on treated crops.

Toward the end of World War II benzene hexachloride was introduced in the United States and was under test in various areas here. One of the first companies to work with benzene hexachloride in the United States was the California Spray-Chemical Corp. As a result of this work it soon became evident that the pure gamma isomer or a gamma isomer compound without the presence of the other undesirable isomers of benzene hexachloride would be an excellent insecticidal material that merited development. Interest in such a development was created in the Hooker Electrochemical Co. at Niagara Falls, N. Y. In 1945, Hooker started development work on the production of a compound which would be the pure or nearly pure gamma isomer of benzene hexachloride. The first experimental lots of the material were developed in 1946 and 1947. At the time, the material was 95 per cent gamma with a small percentage of the other isomers still remaining. In 1948, however, 99 per cent gamma was obtained and in that same year, by refining the process, up to 100 per cent gamma material became a reality. The development of production methods has been so excellent that most of the material at present averages 99.5 per cent gamma and much of it is 100 per cent pure gamma isomer of benzene hexachloride.

In the manufacturing process, commercial benzene hexachloride containing 12-14 per cent gamma is refined by separating the gamma isomer in a continuous process, resulting in the production of pure gamma isomer material. Truly, the development and production of this excellent insecticide chemical is a story of modern chemical production, technique, and achievement.

First of all, the name lindane was approved for the pure gamma isomer of benzene hexachloride in 1949 by the United States Department of Agriculture. It was named in honor of the Dutch chemist, Vander Linden who originally isolated and described the gamma isomer. Chemically, lindane is designated as the gamma isomer of 1;2,3,4,5,6 hexachloro cyclohexene, a chlorine saturated benzene ring compound. It is a white crystalline substance similar in appearance to granulated sugar, the granules being somewhat coarser. The material has a melting point of 112° C., a vapor pressure of one one-hundred thousandths mm. at ordinary temperatures, .2mm. at the temperature of boiling water. The chemical breaks down in the presence of strong alkalis or strongly alkaline solutions.

In general characteristics lindane as it was produced in initial quantities was found to be all the entomologists had dreamed of with regard to an insecticide. The pure gamma isomer retained all of the excellent killing power of the original parent compound. It retained the residual action quality similar to that of benzene hexachloride, DDT and other organic chlorine insecticides. Lindane as such does not have as long a residual insecticidal life as some of the other chemicals but what it lacks in time, it makes up for in effectiveness. The chemical is found to be more efficiently toxic to insects than commercial benzene hexachloride, its parent compound, and is approximately five to 10 times as toxic to insects as DDT. In other words, it takes much smaller amounts of it to control vari-



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ous insects than is required in the use of other organic chlorine insecticides.

One of the first points that became obvious with reference to the material was its versatility as an insecticide. Even now new uses are still being discovered. In the course of the past five years of experimental work with lindane, it has been found to control more species and types of insects in the form of animal and plant pests than any other insecticide now in use or any previously used. This is due largely to its extremely valuable factor of having a three way insecticidal action of stomach poison, contact poison and vapor action poison. This three-way mode of killing is unusual in insecticides and is not displayed to such an extent in any of the related organic insecticide compounds.

The toxicity of lindane to warm blooded animals is of course favorable to its use and application. In chronic toxicity, it is about ¼ as toxic as DDT and shows practically no dermal toxicity. The oral toxicity is likewise of a low nature. In addition, lindane does not build up in body tissues as does DDT but is eliminated at approximately the rate of intake and therefore is not a dangerous material to be taken into an animal's body through use or other method. It has such a high safety factor in reference to toxicity that it has been approved by U. S. Department of Agriculture for dairy barn spraying and for spraying of dairy cattle for certain difficult-to-control and definite parasitic infestations such as mange and scab. It is also possible to use it to some extent on certain crops close to harvest time because residues disappear fairly quickly and on many plants, minimum residues are found remaining. For instance, it can be applied to alfalfa and foliage crops if applied not later than two weeks before harvest and the foliage cut and fed to dairy animals.

In addition to being versatile in action and use, lindane also offers a wide range of possibilities in formulation. This factor is important with reference to insecticides, the requirements for which lindane meets well. It can be formulated into wettable powder concentrations of most any desired strength; it can be formulated into dusts of from one to two percent or as desired; it can be formulated into excellent emulsive or liquid concentrate formulations at the approximate range of 1¾ pounds per gallon of solvent carrier. Lindane likewise has a very good solubility in quite an effective range of solvents and this information is available in trade channels.

Analytical methods for lindane have been worked out. These include chemical analysis by chlorine extractive method or spectographic analysis, depending on the equipment and conditions available. The chemical as such has been readily adapted for use in the chemical and insecticide industries.

The uses of lindane is a comprehensive subject as they are so widespread and of such varying possibilities. In agriculture in general, lindane has three major applications: on crops; on animals, and as a soil insecticide. The crop uses include various formulations such as wettable powder, dusts and emulsive liquid sprays on crops ranging from forage, vegetables and fruit, through field crops and others for control of a long and most comprehensive range of insect pasts. These include aphids, alfalfa weevil, army worms, various caterpillars, plant bugs, *Diabrotica* beetles, earwigs, grasshoppers, wireworms and other soil insects to name a few. As is the case with other insecticides, applications to crops have to be made under certain specific conditions and with timing depending on the development of the crop. This type of application worked out in very satisfactory programs, and the agricultural uses and possibilities for use of the material are excellent.

The use of lindane on animals has produced excellent results. Agencies in Federal and experiment station areas throughout the U. S. have obtained outstanding results in control of various insect pests of animals with this insecticide. The U. S. Department of Agriculture's recommendation of its use for dairy barn spraying for fly control was a significant development, and aided materially in the protection of dairy cattle as well as of other cattle and milk and food products from fly nuisance and contamination. Lindane controls all varieties of flies such as house flies, horn flies and stable flies. In addition, lindane was found to be effective for the control of mange on cattle and other animals. It also controls both the Sarcoptic and Psoroptic manges, being the only modern insecticide for which such a claim can be made. Its use in this respect has been almost phenomenal, and the control of the infestation in animals decimated by the attack of mange has been striking in many cases. Lindane will also control lice, fleas, ticks, sheep ticks, mosquitoes and other animal infesting insects.

One type of insect control developed using lindane in combination with DDT is a liquid screw-worm remedy. Mixed in a special type solvent, the preparation, when applied to wounds or screw-worm infested wounds, results in prevention of infestation. If maggots are in wounds the preparation forces them out, killing the maggots and preventing reinfestation for several days, while at the same time promoting rapid and clean healing. The use and development of this formulation on animals has had good results. With reference to its use on animals, lindane can be employed generally. High dosages are not required. Some caution is required, and particularly its application to very young animals. This should be done carefully and according to label or manufacturer's recommendations.

Soil insects controlled by lindane include wireworms, various maggots such as corn seed maggot, onion maggot, white grubs, sod web worms and other insects inhabiting soil areas. For controlling wireworms, it can be applied most effectively in a ratio of a few ounces to each 100 pounds of seed prior to planting time. It can also be applied effectively for wireworm control and control of other soil pests in the form of wettable powder, dust or liquid formula application. The persistence in soil varies with amounts applied and on potato land, annual rotation is required if treatments up to ½ pound per acre are used. Ordinarily, ¼ pound of actual lindane per acre is sufficient for effec-

(*Turn to Page* 159)

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18. **Confused Flour Beetle** — Probably most important of the bran bugs. Small, reddish brown, about ⅛" long. Distribution is world-wide. General feeder on farinaceous foods. One of the worst pests of prepared cereals. Found in granaries, mills, and warehouses.



19. **Mosquito** — Pestiferous species breed in salt marshes and may drift for about 30 miles. Females have piercing-sucking mouth parts, and only the females feed on blood. Anopheles mosquitoes transmit several kinds of malaria to man.



20. **Bald-Faced Hornet** — Member of paper wasp family, widely distributed. Usually suspend their nests from tree branches. May congregate where fruit is being canned. These insects are nuisances mainly because of their well-known stinging ability.



21. **Clover Mite** — Deposit eggs in fall, mites hatch in spring. Have 8 legs, front ones much longer than others. Are reddish, very small. Occasionally invade buildings and become a general nuisance. Distributed throughout Northern U. S. and Canada.



22. **Saw-Toothed Grain Beetle** — Burrow through cartons and sacks containing stored grain and grain products. Found in flour mills and warehouses. Females lay from 45 to 285 eggs each. Often occur in great numbers in farm-stored grain. Lifespan is 6-10 months.

A Short Test to Detect Hydrocarbon

Adulteration of Carnauba

By Leon Kresser
Cornelius Products Co.

TWO years ago the American Wax Importers and Refiners Association appointed Dr. Charles J. Marsel, professor of chemical engineering at New York University, to make a study of carnauba wax characteristics in order to establish standards which would serve as a critical yardstick for the industry as a whole. Dr. Marsel's findings, as published by the association, emphasized the fact that the normal range of carnauba characteristics — melting point, flash point, acid and saponification values, etc.—was quite broad. Because of this, it is possible to adulterate carnauba by using materials which have roughly the same physical characteristics and yet stay within the acceptable limits of the pure wax. Materials most apt to be used for this purpose are hydrocarbon waxes and hydrocarbon resins.

As an outgrowth of his work for the Wax Importers Association, Dr. Marsel then undertook a study of adulterants found in carnauba wax, this time on behalf of one of the Association's members. Simultaneously, independent studies along similar lines were being conducted by some of the larger consumers as well as by various importers and refiners of carnauba, my own company included. The writer is in charge of research at Cornelius and has been responsible for most of its work along these lines.

At the recent mid-year meeting of the Chemical Specialties Manufacturers Association in Chicago, two methods of detecting the most common adulterants were described. One, outlined by Professor Marsel, published in the July issue of *Soap and Sanitary Chemicals*, employed a solvent leaching technique to produce a residue which would show up the adulterant in the concentrate. The other method, discussed by representatives of S. C. Johnson & Son, Inc., used displacement chromotography to separate wax constituents into chemical fractions.

Both methods have great possibilities, but are laborious and time-consuming. As a result of the work of my company the following easy, quick and simple qualitative method for determining the presence of any substantial proportion of hydrocarbon adulterants in carnauba has been set up. This test has been employed by the writer for a considerable length of time.

The procedure outlined below usually takes about 10 minutes and is a reliable index to the presence of hydrocarbons in carnauba.

1. Take 10 grams of carnauba broken into small lumps but not necessarily powdered. Place in a 250 ml beaker and add 100 ml of 99% isopropanol.

2. Place on a hot plate and allow the mixture to boil until all the wax is dissolved and the solution is clear. Failure to obtain a perfectly clear solution may be construed as an almost certain indication of the presence of adulterants.

3. Remove the beaker of boiling solution and decant all the liquid material.

4. A considerable amount of carnauba-isopropanol paste will remain, adhering to the sides of the beaker. Add 25 ml of fresh isopropanol and again boil until all the adhering wax has gone into solution. Decant this also, and wipe the lip of the beaker with a clean rag. Allow the beaker to cool.

5. Observe the cooled beaker. If oily rings are present around the side, about one inch from the bottom, it is a definite sign that paraffin or microcrystalline waxes are present. Should the concentration be more than 10%, the coating on the sides is usually quite heavy and is easily observed. If there is a heavy sediment on the bottom of the beaker, it may be due to a hydrocarbon resin such as "Piccolyte" or possibly ester gum which, although not a hydrocarbon, can also be identified by means of this test.

If the beaker is perfectly clean, it indicates that there is no substantial hydrocarbon adulteration of the carnauba.

In devising this test, it was first attempted to separate the hydrocarbons from the carnauba simply by solvent extraction. Ethyl alcohol seemed to be a logical solvent, but proved unsuitable because carnauba itself is difficult to dissolve in this material. Isopropanol alcohol, on the other hand, dissolves carnauba readily while taking only a small amount of hydrocarbon into solution.

In the development of this test, findings were checked by various combinations of hydrocarbon adulterants with carnauba in proportions of 1% up to 20%. The principal hydrocarbons used were paraffins ranging from 120°F melting point to 165°F melting point—the upper two were "Aristowaxes"— microcrystalline waxes having melting points of 165°F and 190°F, and "Piccolyte S-115." Since preliminary tests showed ester gum could also be detected by this test, combinations were made up of carnauba with ester gum 8-L. To insure the accuracy of the findings, the carnauba used in making these combinations was analyzed previously to make sure it was pure. Analysis was made by saponifying with potassium hydroxide, extracting the unsaponifiable matter from the soap solution by hot benzene, and then treating it with a hot solution of 50% amyl alcohol and 50% fuming hydro-

(*Turn to Page* 159)



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Insecticidal Aerosols

By R. A. Fulton*

Bureau of Entomology and Plant Quarantine
U. S. Department of Agriculture

DEVELOPMENT in the formulation, method of use, and packaging of insecticidal aerosols propelled by liquefied gas has been rapid. Much of this work has been stimulated by the discovery and availability of new insecticides. Competition to produce less expensive devices has also contributed to development, particularly in aerosols used to combat household pests.

The idea of dissolving insecticides in suitable solvents and liquefied gases and dispersing the solutions through small orifices was developed in 1942 (3, 5). Studies have been made on the effectiveness against flying insects and also on the settling rate of insecticide particles of various sizes. As a result of these studies the following definition (1) has been agreed upon for household type liquefied gas insecticide aerosols: A system of particles in the air where 80 percent are less than 30 microns in diameter and none are larger than 50 microns. The particle diameter in most cases ranges from one to 50 microns.

The first type of liquefied gas aerosol used dichlorodifluoromethane as the propellent, exerting a gage pressure of approximately 70 psi. at 70° F. This required special expensive containers for storing and shipping purposes. With the development of propellents with a gage pressure of 35-38 psi. at 70° F. less expensive containers are now being used.

Success in the development of liquefied-gas aerosols for all purposes depends mainly on proper design of nozzles and formulas to produce the desired particle size. This is especially true with the low pressure formulas.

The characteristics of liquefied gas aerosols flowing through small capillary tubing and orifices have been studied and the results have been used to develop suitable valves.

Capillary-Tube Nozzles

PARTICLE size may be changed by varying the size and structure of the valve through which the material must pass. For applying aerosols containing only dichlorodifluoromethane ("Freon-12") as the propellent, a nozzle constructed of 0.017-inch capillary tubing was found to give the most satisfactory particle size and a delivery rate of one gram per second. This delivery rate has been used as a standard for formulas designed for treating airplanes entering the United States.

With high-pressure ("Freon-12") formulas the length of capillary can be varied considerably without changing the particle-size distribution, but with low-pressure formulas a particular length of tubing is required to obtain a minimum particle size. The results of tests to determine the different sized particles obtained with a typical low-pressure aerosol released from various lengths of 0.017-inch (i.d.) capillary tubing are shown in Table 1. This formula, G-490, contains two percent each of DDT and pyrethrum extract (pyrethrins 20 percent), five percent each of alkylated naphthalenes and deodorized kerosene, and 43 percent each of trichlorofluoromethane ("Freon-11") and dichlorodifluoromethane. It exerts a pressure of approximately 35 pounds per square inch (gage) at 70° F.

The average median particle diameter for the various lengths of 0.017-inch capillary varied from 50 microns to 16.3 microns. The most satisfactory range for insecticidal aerosols is from 0.75 to 1.5+ inches in length.

A summary of a series of tests with capillaries of different diameters and lengths that produce satisfactory low-pressure aerosols is shown in Table 2.

The length of the capillary

TABLE 1. Cumulative percentage of different sized particles obtained with a low-pressure aerosol (G-490) released from various lengths of 0.017-inch (i.d.) capillary tubing.

Diameter of particles (microns)	*Length of tubing in inches*							
	0.02	0.06	0.09	0.5	0.75	1.0	1.5	6
10	3	5	2	11	15	19	5	12
20	15	40	27	45	50	77	62	45
30	30	66	53	87	86	98	95	80
40	40	85	74	95	95	100	100	93
50	50	95	81	98	100	..	..	99
60	66	96	90	100	..	..	..	100
70	71	97	91	..	..	..	..	..
80	80	98	93	..	..	..	..	..
90	93	99	95	..	..	..	..	..
100	95	100	97	..	..	..	..	..
120	96	..	100	..	..	..	..	..
140	100	..	..	..	..	..	..	..
Median	50	27	28	20	19.7	16.3	18	21
Output (grams/sec.)	..	2.0	1.6	1.6	1.5	1.5	1.2	1.0

* Presented at Chemical Engineering Symposium of the Division of Industrial and Engineering Chemistry, American Chemical Society, held at Johns Hopkins University, Baltimore, Md., Dec. 28-29, 1950.

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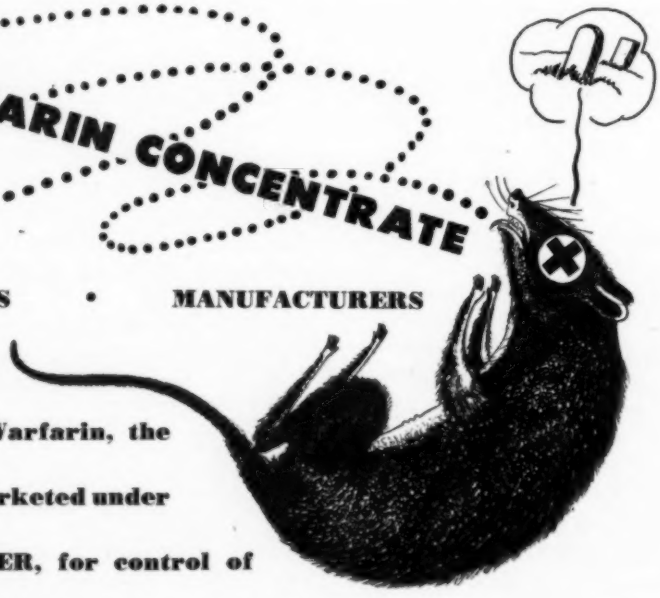
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TABLE 2. Lengths of capillary tubings of different diameters producing most effective low-pressure aerosols.

Diameter of capillary (inch)	*Minimum length (inches)*	*Maximum length (inches)*	*Output (grams/second)*
0.0135	0.5	1.0	1.0 to 0.8
.017	.75	1.5+	1.5 to 1.2
.024	1.0	4.0	3.0 to 2.0
.029	4.0	6.0	3.3 to 2.8

used with low-pressure aerosols must be kept within narrower limits than with the high-pressure type. For each capillary diameter there is a length that will give a satisfactory aerosol. The discharge rate is associated with the internal diameter and not with the length. Where high discharge rates are necessary, satisfactory aerosols may be produced with large capillary tubing in lengths of four to six inches.

Expansion-Chamber Nozzles

BECAUSE the pressure of an aerosol solution flowing through a capillary was found to drop approximately 30 percent, nozzles comprising combinations of small orifices and expansion chambers were tried to determine the best arrangement (Figure 1). The most satisfactory nozzle unit (Fulton and Fales 2) had an expansion chamber of 0.008 cubic inch and orifices measuring 0.015 inch at the inlet (1) and 0.021 inch at the outlet (2). The delivery rate of this combination was approximately one gram per second at 40 pounds per square inch.

A number of adaptations of the orifice and expansion-chamber principle are in commercial use. For dispensing high-pressure aerosols the most common nozzle is a combination of a loose-fitting screw with an expansion chamber and outer orifice (Figure 2). The peak of the thread fits tightly against the walls, with the space between the helical peaks acting as a modified capillary. The delivery rate of this type of nozzle is changed by means of pre-calibrated screws.

An illustration of a modified expansion chamber commonly used with low-pressure aerosols is shown in Figure 3. This type of valve has two small pieces of tubing, with one end closed and then drilled to the proper size. The open ends of the two pieces are joined by embedding them in a block of plastic, which also serves as a push button to actuate the valve, and the internal space is used for an expansion chamber. Another release valve of the push-button type is shown in Figure 4. This type of valve depends on the restricted flow of aerosol solution around the release pin before it reaches the expansion chamber. One commercial valve has a groove around the body of the valve to give additional expansion before the aerosol is discharged at the outer orifice.

All the commercial release valves of the push-button type are of rubberlike material such as the buna types, neoprene, or nylon for the seat of the valve. The development of the sealing materials for this purpose has been a challenge to the rubber industry. The solvents in the aerosol formulations cause swelling or some other deleterious action, which occasionally has shortened the life of the aerosol units.

The containers and valves developed for insecticidal aerosols have recently been adapted with a few minor

Fig. 1. Diagrammatic drawing of nozzle showing arrangement of inlet orifice (1), and outlet orifice (2), and expansion chamber.

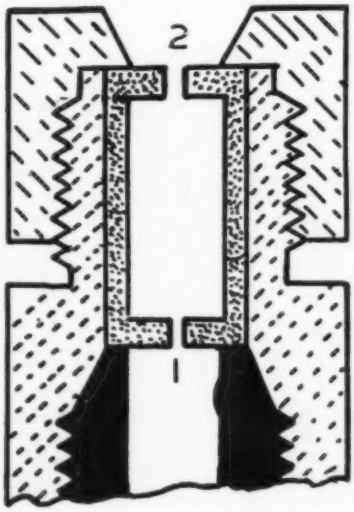


Fig. 2. Loose-fitting screw-type nozzle. Areas between peaks of threads restrict the flow of aerosol solution.

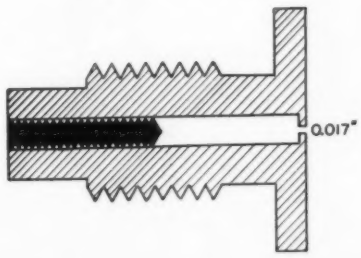


Fig. 3. A commercial type low-pressure aerosol valve with a small expansion chamber.

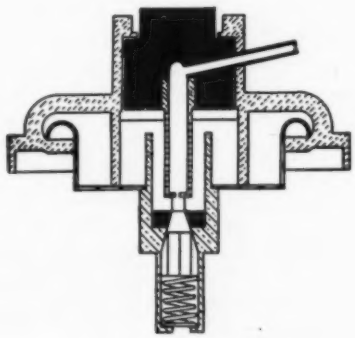
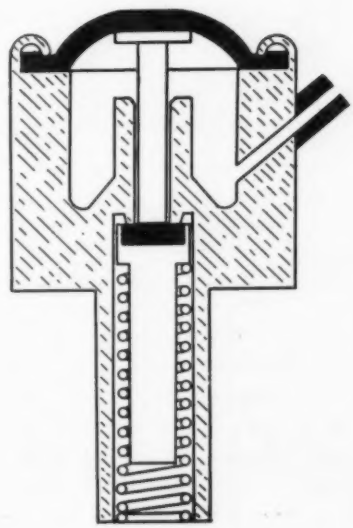


Fig. 4. A commercial type low-pressure aerosol valve with loose-fitting plunger pin that restricts the flow of the aerosol solution.



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Summary

THE most practical nozzles for insecticidal aerosols have an expansion chamber between two orifices. The relation of the inside to the outside orifice in the valve is approximately 2:3. The inside orifice may be designed as a mitering rod, a loose-fitting screw, or any type of device that will give a satisfactory drop in pressure before the solution reaches the expansion chamber.

Where high discharge rates are necessary, satisfactory aerosols may be produced with nozzles of long capillary tubing.

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Bottle Cleaners

(*From Page* 42)

the water) will tend to reduce the foaming.

Other compounds have been developed to overcome this difficulty. Hill,(29) for example, has prepared non-foaming detergents consisting of sodium hydroxide, sodium silicate and sodium sulfate. Others(30) use a water-soluble sodium octylphosphoric acid ester with the caustic to inhibit foaming. The use of phenoxyalkanols for this purpose is described in the patents granted to Tremain and Bacon.(31) More recently, silicones have been employed to permit the use of mixtures which were formerly unacceptable because of foaming.(4)

However, Burkard,(2) in agreement with other authorities,(3) is of the opinion that foam-inhibiting agents should be used as a last resort and only after the careful checking and elimination of mechanical and other factors responsible for the condition. Sometimes, as in the case of milk bottles, better pre-rinsing can cut down foaming by removing the soap-forming fatty soil.

Some types of soil on bottles require special consideration. Rust is of this nature. While some bottle washing alkalies will remove light rust, it is necessary generally to resort to a dilute acid solution to remove heavier rust marks quickly. Hydrochloric (muriatic) acid of about 10 per cent strength is the best known agent for this purpose. A soak in such a solution prior to washing in the regular machine will generally produce satisfactory results. However, thorough rinsing is necessary before the bottles are transferred to the alkali-washes.(6)

A few years ago a special type of washing machine, called the "Sterilette," was developed(32) for cleaning bottles which require special processing because of rust rings, paint, tar, cement or other substances that cannot be removed by a standard bottle washer. Two solutions are used in this machine. One, a so-called tank solution, is a 15 per cent concentration of phosphoric acid which softens the dirt for easy removal by the operator. The second is a solvent, either toluol or mineral spirits, for use in the tar compartment, where tar-coated or similarly dirty bottles are cleaned.

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Dr. Leland to Aerovap

The appointment of Dr. Stanley J. Leland, public health specialist, as medical director of American Aerovap, New York manufacturers of insect-control machines, was announced recently.

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THE SECRET OF INSECTICIDE SALES APPEAL

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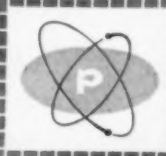
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are created and blended by our laboratory experts for *complete oil solubility, stability* and *compatability* with accepted aerosol toxicants, solvents and propellants. Your "hard to cover" insecticides can have complete and pleasing coverage.

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will provide that unique quality which distinguishes the *better* product from the *ordinary* product. Write today for details.



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Affiliate of John Powell & Co., Inc. Serving the insecticide industry for more than a quarter of a century.

TRADE NEWS

Heads Du Pont Specialties

The appointment of Harry R. La Towsky as manager of the specialties sales division of the fabrics and



HARRY R. LA TOWSKY

finishes department of E. I. du Pont de Nemours & Co., Wilmington, Del., was announced recently by H. R. Lounsbury, director of sales of the finishes division. Mr. La Towsky succeeds G. W. Sherin, who retired July 31, after more than 25 years as manager of specialties sales. Mr. La Towsky has been assistant manager under Mr. Sherin since 1929, and is succeeded in that position by C. A. Weslager.

The specialties sales section distributes Du Pont No. "7" line of auto polishes, waxes, radiator cleaners, rust inhibitors and other automotive specialties.

A native of Omaha, Nebr., Mr. La Towsky was graduated from the college of business administration of the University of Nebraska in 1923. He joined Du Pont in 1927. Since he became assistant manager of specialties sales in 1929, the number of products handled by the specialties section has increased from five to 30, and the volume of business grown twelve-fold.

A 1932 graduate of the University of Pittsburgh, of which city he is a native, Mr. Weslager went with Du Pont in 1937, after serving as sales promotion manager of Life Savers Corp. In addition to his experience in specialties sales, he was for a time a technologist in the field research section of the fabrics and finishes department, and was also assistant supervisor in the personnel section. In recent years he has given special attention to the introduction of household products and the development of new automotive products in the No. "7" line.

New Wright Brokers

J. A. Wright & Co., Keene, N. H. silver polish manufacturers, recently announced the appointment of L. C. Brittingham, Harrisburg, Pa.; James O. Brown Co., Scranton, Pa., and E. B. Long Co., Baltimore, to act as brokers in those areas.

Conco Expanding Coverage

Expansion of its sales coverage to include all southern states from coast to coast and the appointment of Donald N. Crain as auditor and purchasing agent were announced recently by Conco Chemical Co., Dallas. Conco manufactures and distributes a line of sanitary chemicals and maintenance materials. Mr. Crain received his bachelors' degree in business administration and did graduate work at the University of Oklahoma. He served in the Pacific with the Coast Guard in World War II. His joining Conco is part of an expansion program which has been under way for several months. Conco now has representatives in six states, and plans call for representatives to call on the trade in all the southern states. Lacy E. Crain, formerly secretary of the board of the National Sanitary Supply Association is founder and head of Conco.

Pennsalt Dallas Office

The opening of a district sales office in Dallas, Tex., for its farm and dairy sanitation, laundry and dry cleaning, maintenance and industrial products was announced recently by Pennsylvania Salt Manufacturing Co. The new office, which is located at 1618 Irwin-Kessler Building, is Pennsalt's central sales and service headquarters for Texas and Oklahoma. Hugh W. Temple is district sales manager for the organization.

Greene Joins Buckingham

Allen B. Greene, a graduate of the University of Miami, where he majored in business administration and



ALLEN B. GREENE

accounting, recently joined Buckingham Wax Co., Long Island City, N. Y., as assistant to the general manager, Irving Wexler. After serving with the U. S. Navy, in which he held the rank of Ensign, Mr. Greene resumed his studies at Miami University following his separation from the service. Prior to joining Buckingham, he was affiliated with a large accounting firm in New York. His duties at Buckingham include general management and sales.

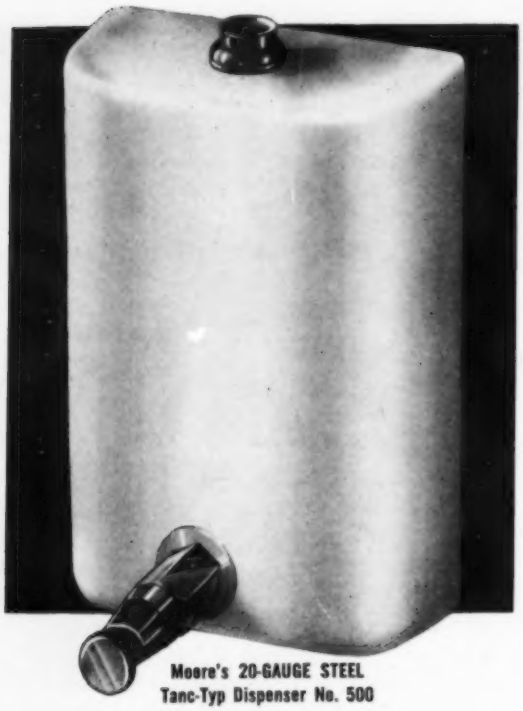
Haller Pest Control Head

Dr. H. L. Haller, assistant chief, BE&PQ, U. S. Department of Agriculture, Washington, D. C., was elected as chairman of the Interdepartmental Committee on Pest Control at a recent meeting in Bethesda, Md. He succeeds the late Dr. S. A. Rohwer of the U.S.D.A. Also elected at the meeting was Dr. S. W. Simmons, chief, technical development services, Communicable Disease Center, U. S. Public Health Service, Savannah, who was chosen as secretary. At the meeting it was decided to meet quarterly and the next meeting has been scheduled for Sept. 21.

The function of the Committee, which held its first meeting in

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You don't have to be a mind-reader to read metal shortages into the future.



Moore's 20-GAUGE STEEL
Tanc-Typ Dispenser No. 500

It's just good common sense to place orders that prepare you for profits on these liquid soap dispensers. So line up two kinds of prospects:

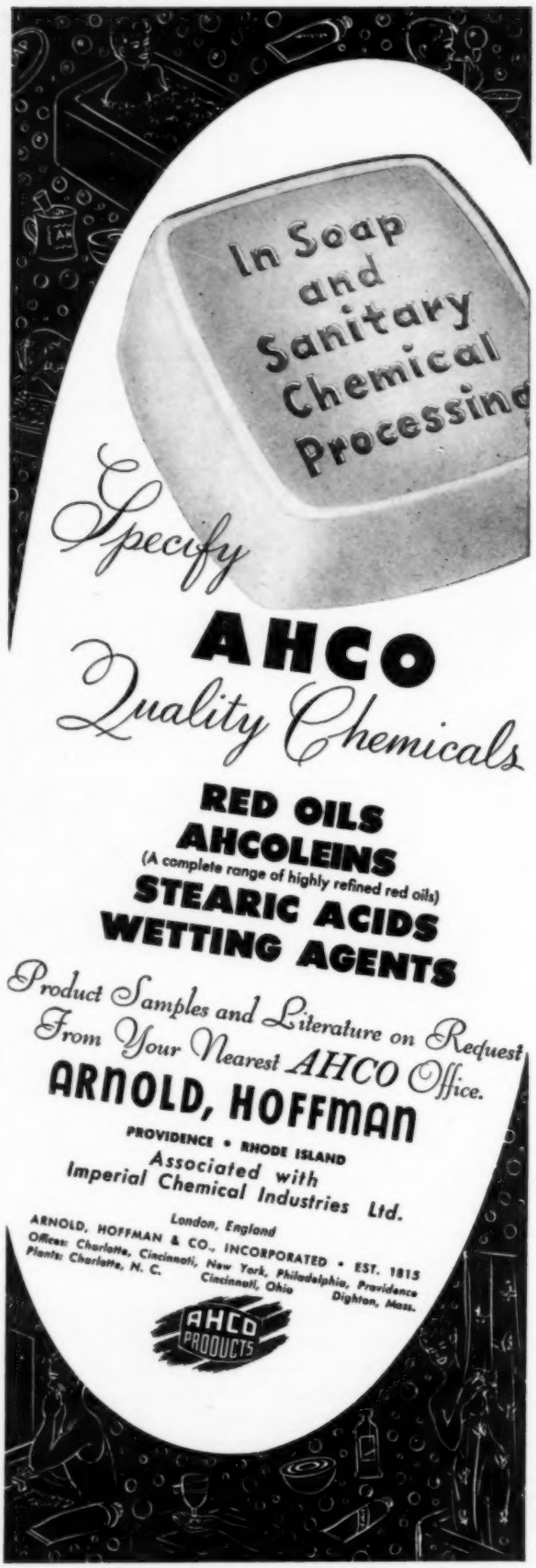
1 those who need to replace a faulty Gravity Soap System, or weak, individual dispensers.

2 those who have been putting off switching from hand soap to sanitary liquid soap.

Let us furnish you with a stock of No. 500 Tanc-Typ Dispensers to fit any of these requirements.

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1946, is the cooperative planning in the field of research and free interchange of information on results; collaboration in preparing and issuing information to the public on matters which cover the general field of chemicals used in pest control; unification of policies on the use of such chemicals when they are applied for controlling pests over large areas; and collaboration and coordination in planning and executing control programs where there is a joint interest.

Diamond Acquires Kolker

Acquisition of all the capital stock of Kolker Chemical Works, Inc., Newark, N. J., by Diamond Alkali Co., Painesville, O., was voted at a special meeting of Diamond stockholders, Aug. 30. In addition to its plant in Newark, Kolker operates another at Houston, Tex. The firm produces DDT, BHC, 2,4-D and 2,4,5-T. Kolker has reported sales of seven million dollars a year.

Household Insect Bulletin

California Agricultural Experiment Station, Berkeley, Calif., has issued a new bulletin, X 172, entitled "Control of Household Insects and Related Pests," which tells how to recognize and control many insect pests commonly found inside the house.

Canada Pesticide Sales Up

Consumption of insecticides in Canada in 1950 showed an increase of about 28.4 percent, as compared with 1949, according to statistics published recently by the Bureau of Statistics in Montreal. Sales of weed killers and livestock treatments rose in 1950, although sales of disinfectants, agricultural dusts and sprays and rodenticides declined, as against 1949. Total sales of all insecticides, herbicides, germicides and rodenticides amounted to $15,427,000 in 1950, an 8.5 percent gain over the previous year. Herbicide sales were up 23.2 percent and livestock treatments showed an increase of 16.5 percent. Disinfectant sales were off by 9.2 percent, agricultural dusts and sprays were down 5.8 percent and rodenticides were off 5.5 percent.

Carnes Amer. Home V.P.

Herbert E. Carnes was elected as executive vice-president of American Home Products Corp., New York,



HERBERT E. CARNES

it was announced recently by Alvin G. Brush, chairman. Mr. Carnes joined the company in 1936 as head of the tax department, becoming controller in 1939, treasurer in 1941, a director in 1948 and a vice-president in January, 1950.

At about the same time it was announced that Kenneth A. Bonham, former president of Emerson Drug Co., had joined American Home Products Corp., as assistant to Walter F. Silbersack, president. Mr. Bonham went with Emerson in 1943, having previously been editor and co-publisher of *American Druggist* trade magazine.

New Vestal Plant

Vestal, Inc., St. Louis, recently announced the opening of new quarters adjoining the firm's older plant at 4963 Manchester Ave., St. Louis. The new unit, a two-story brick structure of modern design, provides 19,800 square feet of additional plant capacity and 6,000 square feet of additional office space. Used in conjunction with the older Vestal building, it greatly increases warehousing space and production facilities. The first floor is given over to manufacturing operations. These have been laid out so that raw materials and supplies enter one end of the building and leave at the other end as finished products. The second floor, in addition to private and general offices, contains a conference room large enough to accommodate 80 people, and provides space for a large modern testing and research laboratory. Asphalt tile, rubber tile, terrazzo, ceramic tile, wood and cement floors are used throughout the building with test panels in each for testing of the company's floor products.

Ed Campau Marries

Dr. Edward Campau of the research laboratories of Standard Oil Company of Indiana, Whiting, Ind., was married July 19 to Miss Ruth Farmer of Paradise, Washington.

Recalls Insect Repellent

Recall of a shipment of "6-12" insect repellent from wholesale and retail channels because it had become diluted in packaging was announced recently by Carbide and Carbon Chemicals Co., a division of Union Carbide and Carbon Co., New York. The dilution with what was described as a harmless chemical took place while the repellent was being bottled. The shipment was called back, according to a company spokesman, because the product was rendered less effective by the dilution.



HAAG products

LIQUID FLOOR CLEANSERS:
- Zephyr-Brite Liquid Floor Cleanser
- VOS Liquid Scrub Soap
- UTL Liquid Scrub Soap
- Wax Soap Cleansers

HOSPITAL SOAPS:
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- Castile Baby Soap
- Hospital Green Jelly Soap

SYNTHETIC CLEANER CONCENTRATE
LIQUID TOILET SOAPS
40% COCOANUT OIL LIQUID SOAP
COCO-CASTILE SHAMPOOS
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PINE OIL DISINFECTANTS
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Diversey Advances Two

Frederick B. Hermann, assistant director of the technical development department of Diversey Corp.,



D. V. HANNIBAL F. B. HERMANN

Chicago, has been named director, it was announced recently by President L. Shere. Mr. Hermann succeeds R. J. Stell, recently named assistant to Diversey's general sales manager.

Also announced was the appointment of Donald V. Hannibal as assistant director of the department. He previously headed analytical technical service and control for the chemical laboratory, a division of the Diversey research laboratories.

A graduate of the University of Chicago in chemistry, Mr. Hermann joined Diversey in November, 1947, as an engineer in the technical development department.

Mr. Hannibal also started with Diversey in 1947, beginning as a chemist in the Diversey research laboratories. He was graduated from Northwestern University.

Rat Control Manual

Methods of mouse and rat control with warfarin are outlined in a 21-page illustrated manual recently made available to vocational-agriculture teachers, county agents, other farm leaders, and rodenticide formulators by the Wisconsin Alumni Research Foundation, Madison, Wisc. The manual, entitled "Rat and Mouse Control, Step by Step," gives recommended methods of rodent control with warfarin and is designed to be used as a guide in projects for vo-ag students, 4-H, FFA, FHA club members and others who may organize local anti-rodent campaigns. Under the plan outlined, displays and demonstrations are worked out illustrating the heavy damage caused by rats and mice, and individual and community action is urged. An 8-page accompanying booklet gives demonstration display ideas. Copies of both manual and booklet may be obtained directly from the Foundation at Madison, Wisc.

Basic warfarin patents are owned by the Wisconsin Alumni Research Foundation. Licensed suppliers of the compound are S. B. Penick & Co., New York, and the Prentiss Drug & Chemical Co., New York. Over 100 brands of warfarin rodenticides, put out by processors and packers in various parts of the country, are now on the American market.

Aldrin, Dieldrin Described

Julius Hyman & Co., Denver, Colo. have issued their August *News Letter* describing the use of aldrin and dieldrin for control of grasshoppers, mosquitoes, potato beetles and boll weevil. The *News Letter* also includes a brief article by Dr. C. C. Compton, Hyman entomologist, on properties of aldrin and dieldrin.

New Fuld Catalog

Fuld Brothers, Inc., Baltimore, recently issued their new, 1951 descriptive price list. In loose leaf form, the 80-page book is punched for standard 8½ x 11 inch three-ring binders. It is made up so that new pages can be inserted easily to keep the list up-to-date. Other features include a list of new Fuld products, with complete descriptions on the pages indicated in the list. In addition, there is a five-page alphabetized index of all products found in the catalog.

Following a 60-page section devoted to listing, describing and illustrating the firm's line of sanitary chemicals and application and dispenser devices, there is a section of product illustrations. Also featured is the Fuld process of applied color labeling by which a distributor may have his own label design applied to cans or bottles ordered in small quantity. The design is printed directly on the container, doing away with the need for paper labels. Twenty advertising pieces that can be used by sanitary supply distributors are shown and described and prices given.

To Natl. Distillers Bd.

The election of William P. Marsh, Jr., as a director of National Distillers Products Corp., New York,



W. P. MARSH, JR.

took place at a directors' meeting Aug. 9. Mr. Marsh is president of U. S. Industrial Chemicals Co., New York, which is a division of National Distillers. Also named to the directorate of National Distillers was F. Wilder Bellamy, senior partner of Dominick & Dominick, New York.

Click Chemical in Move

The removal of its Brooklyn factory and Pelham, N. Y., office and warehouse to a new factory location at Columbus and Carleton Aves., Mount Vernon, N. Y., was announced recently by Click Chemical Corp. The company's new mail address is P. O. Box 247, Mount Vernon. Its telephone number is Mount Vernon 7-2623.

Changes in Floor Wax Spec.

Three changes in the floor wax specification (784b) of the General Services Administration, Federal Supply Service, Washington, D. C., were announced recently. On page 3, paragraph 4.2, the following new sentence has been added: "Tests should be completed and reported within 30 days after receipt of the samples by the laboratory." On page 8, paragraph 4.2.-11.2.1., in line 18, following "dry 24 hours at 23°C.," "in still air" has been added. The final change, page 9, paragraph 4.2.13, line five change figure "5" to "2," and in line 8, change "1" to "5."

Quick Sales

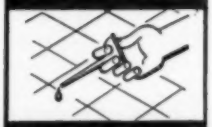
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A "BEAR FOR WEAR"— WITHSTANDS HEAVY FOOT TRAFFIC AND ABUSE.

DRIES TO A HIGH LUSTRE IN LESS THAN AN HOUR.



OIL, GREASE AND SOLVENTS CAN'T HURT THIS DURABLE RESISTANT SURFACE



GOES ON WITH EASE— GIVES A HARD, SEALED SURFACE FOR WAX.

Federal ASPHALT TILE FINISH

Use On — Asphalt Tile, Rubber Tile, Linoleum or Mastic Tile—the safe finish for so many floors — safe underfoot.

Ideal for **RESTAURANTS — CAFETERIAS — HOSPITALS — PUBLIC BUILDINGS — SHOPS and STORES — HOMES — OFFICES — FOOD PLANTS and FACTORIES**

Approved by Underwriters Laboratories as an anti-slip floor finish.

ANTI-SLIP SAFETY FINISH gives prolonged life and dazzling beauty to Asphalt Tile Floors. It restores the surface — dirt cannot penetrate — easier to maintain. Withstands hard usage and heavy traffic. Will not soften the tile or cause the colors to run. Covers approximately 800 sq. feet per gallon — quick sales — big profits.

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Wherever Fast Evaporation Is Required . . .

Penn-Drake® SUPER-SOL

. . . is the insecticide base for you!

If rapid drying and fast evaporation are important to your insecticide, specify Penn-Drake Super-Sol—a highly refined hydrocarbon that is practically odor-free. Because of these exceptional properties, no base is more effective in the manufacture of mothicides and DDT residual sprays. In addition to its use as a base oil carrier for insecticides, it is highly effective as a base for home dry cleaners, metal parts cleaners and odorless paints.

Penn-Drake INSECTI-SOL

When a less volatile solvent is desired to provide longer float and deeper penetration, specify Penn-Drake Insecti-Sol. Odorless, stain-free and completely volatile, Insecti-Sol is recommended for a wide variety of insecticides, including those using DDT crystals in low concentrations.

Write for samples and technical data.



PENNSYLVANIA REFINING COMPANY
GENERAL OFFICES: BUTLER, PENNA.
Refinery at KARNS CITY, PENNSYLVANIA
Branches: Cleveland, O., Edgewater, N. J. Representatives in Principal Cities
Also Makers of: Rubber Solvent, VM&P Solvent, Cleaning Solvent

Changes at Zep Mfg. Corp.

L. L. Tanner, Jr., formerly with the engineering experiment station of Georgia Tech, recently joined the chemical research staff of Zep Manufacturing Corp., Atlanta. Hubert W. Jenkins, chemist with Zep has been advanced to executive staff assistant.

Tells of Govt. Wax Making

The Federal government's floor wax manufacturing operations are described in a recent issue of *G.S.A. News*, published by the General Services Administration, Washington, D. C. According to the article, which is headed "Miniature Wax Factory in GSA Turns Out 30,000 Gallons Yearly," the General Services Administration manufactures most of its own floor wax for use in Federal Buildings located in the Washington area. Of the total, approximately 7,000 gallons a year is used for the Pentagon. The wax manufacturing plant, located at 3rd and Canal Sts., S.W., is operated by the Public Buildings Service, under the general supervision of the Superintendent of the Central Service Shops. Alpine L. Burke is foreman of the plant.

How the government started manufacturing floor waxes is told in the article. According to *G.S.A. News*, "experiments were started in the chemical laboratory, Public Buildings Service, by Harold J. Pavel and the late Morris L. Hitchcock, chemical engineers, to develop a wax which would be more serviceable and less hazardous. . . ." Later, the article points out, in "May, 1948, 29 gallons of wax per day were produced for experimental purposes. After the wax was tested for durability and proved to be satisfactory, especially for its non-slippage quality, production was stepped up. About September, 1949. production was increased to 540 gallons per week. With additional equipment installed in February, 1951, the plant is capable of manufacturing 800 gallons a week."

The Defense Department recently warned all military and civilian personnel employed in the Pentagon "against danger lurking in the slickly waxed floors of the world's largest building."

McCauley Speaks in Europe

W. E. McCauley, entomologist and assistant sales manager of Julius Hyman & Co., Denver, presented a paper at the Ninth International Congress of Entomology, meeting in Amsterdam, Holland, on August 22. The paper, "Use of Aldrin and Dieldrin in Soil Widens Scope of Pest Control," was prepared by Mr. McCauley and Dr. C. C. Compton of Hyman. Before returning to the United States, Mr. McCauley consulted with agricultural and public health officials in Holland, France and England.



W. E. McCAULEY

New Simoniz N. Y. Office

Simoniz Co., Chicago, recently opened a New York sales office at 225 W. 34th St. Fred J. Wall, who formerly worked out of Trenton, is in charge of the new office. Shipping, warehouse and manufacturing facilities continue at Trenton.

New Insecticide Plant

Riverdale Chemical Co., manufacturers of insecticides, recently began construction of its second plant at Dolton, Ill. The new plant includes two manufacturing buildings, an office and laboratory building with a total floor area of approximately 14,000 sq. ft. The new plant will be operated in addition to present facilities at Harvey, Ill.

New Cal-Spray Plant

The opening of a new plant for the production of its line of insecticides, fungicides and weed killers at Decatur, Ala., was announced recently by California Spray-Chemical Corp., Richmond, Calif. The firm is one of the leading producers of lindane insecticides.

Cold Bleached Shellac

The development of a new cold process for bleaching shellac was announced recently by Acme Shellac Products Co., Newark, N. J. Waxes treated by this method will be marketed under the trade name "Cold-Pro." The process, designed to avoid the harmful effects of heat to the life of bleached shellac, is claimed to produce shellac of improved color, toughness, body, shorter cutting time, solubility and stability. As a result of maintaining the shellac at as cold a temperature as possible during the bleaching process, better control of wax content, melting point and acid content are achieved.

WHO Insecticide Specs.

A number of insecticide specifications to aid in control campaigns throughout the world were drawn up by the expert committee on insecticides of the World Health Organization meeting in Savannah, Ga., recently, according to J. W. Wright, committee secretary. The committee also established specifications for a stirrup pump-type insecticide sprayer, as well as for two kinds of hand operated dusting equipment, a hand-carried, manually activated plunger type and a rotary hand duster. Specifications for chemically-resistant, cotton-reinforced rubber hose, and for cut-off valves and clamp-type hose connections were also worked out.

A specification chart for spraying apparatus was approved and recommended for the use of WHO in its promotion of insect control campaigns. The chart gives an evaluation of commercially available equipment based on WHO specifications for each item. Also established was a standard nomenclature and definition for spraying and dusting apparatus.

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1 TRIUMPH FLAKES (77% Soap)
TRIUMPH POWDER (81% Soap)
Made from selected stock. 39-40 titer. Contains water softening chemicals.

2 WABASH FLAKES (88% Soap)
WABASH POWDER (92% Soap)
Made from selected stock. 39-40 titer.

3 NAMICO "42" FLAKES (88% Soap)
NAMICO "42" POWDER (92% Soap)
Made from pure tallow base. 41-42 titer.

4 NAMICO "PB" FLAKES
NAMICO "PB" POWDER
Made from selected oils. Approx. 31 titer.

5 TRISOAP GRANULATED SOAP COMPOUND
Appr. 60% soap, plus complex phosphates and mild alkalies.

6 COLD WATER TRISOAP
(Granulated Soap Compound)
Made from selected med. titer soap, plus mild alkalies. Appr. 60% soap.

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CALMAR SPRAYER
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Here is a fool-proof sprayer available at a fraction of the cost of hard-to-get metal sprayers. Heavy duty construction assures long life and peak efficiency for many, many thousands of gallons. Designed with extra long stroke to deliver a full 3 cc in a finely atomized spray reaching up to 10 ft. White and red collar and head combinations.

ENGINEERED FOR:

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and similar products that do not contain aromatic hydrocarbons, ketones or esters

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Designers and Manufacturers of
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Named in Diversey Shifts

Two additions to his executive staff and three new district managers for the field service organization were



J. E. McMURTRY



R. J. STELL

appointed recently by W. E. Noyes, vice-president in charge of sales of Diversey Corp., Chicago. J. E. McMurtry, district manager in the Cleveland division for western Pennsylvania and eastern Ohio since 1948, has been appointed assistant to the general sales manager. R. J. Stell, who has directed Diversey's technical development department since 1948, has also been named assistant to the general sales manager.

A. B. Dressman, territory representative in Charleston, W. Va., for the past three years has been appointed to succeed Mr. McMurtry as district manager for western Pennsylvania and eastern Ohio; M. H. Thornburg, with headquarters in Dayton, and senior salesman since 1948, has been named manager of a newly established sales district for western Ohio; J. O. Slaybaugh, a senior salesman in the Pacific division since 1947, has been made manager of the newly created northern California sales district. He is working under R. C. Perry, who is in charge of sales for all of California.

New Carnauba Alternate

The development of a domestic wax replacement for carnauba was announced recently by Concord Chemical Co., Moorestown, N. J. Introduced as "Concord No. 407," the new material is available at approximately 47 cents a pound, as compared to approximately $1.25 a pound for No. 3 N. C. refined carnauba wax and refined candelilla wax at 79 cents a pound. With the new replacement, according to the maker, it should be possible to produce a dependable water-emulsion wax at less than 50 cents a gallon. Melting point of the new wax is 86° C., about five degrees higher than that of No. 3 N.C. refined carnauba. "Concord No. 407" is said by the maker to be used almost interchangeably for carnauba or candelilla.

Woodbury Chemical Moves

Woodbury Chemical Co., St. Joseph, Mo., manufacturer of insecticides, maintenance chemicals and weed killers, recently moved into larger quarters at 702 So. Fourth St. The new location, designated warehouse No. 1, is not housing the laboratory, which remains at the old quarters, 22nd and Garfield Sts. H. A. Woodbury is president of the company.

New Hard Surface Wax

Nu-Surface Corp., 7312 Bennett Ave., Chicago 49, recently announced a hard surface penetrating wax which is claimed to reduce the maintenance costs of wood, concrete, terrazzo, marble, ceramic, tile, linoleum and cork floors. The wax, according to the manufacturer, makes such surfaces waterproof, greaseproof, stainproof and marproof and permanently waxed, with no re-treatment necessary.

Freedmans Celebrate 30th

Mr. and Mrs. Charles Freedman celebrated their 30th wedding anniversary on Sept. 11. Mr. Freedman, who is with Mantrose Corp., Brooklyn, completed 30 years with the company on Sept. 1.

New Stauffer Insecticide

"Sulphenone 40W," a new insecticide for controlling mites, was announced recently by Stauffer Chemical Co., New York. The new product is said to be of low toxicity to human beings and other warm-blooded animals. Because of limited plant capacity the product will be sold this year only in the West.

Velsicol Berkeley Office

The establishment of a West Coast office for insecticide sales and service at 2082 Center St., Berkeley, Calif., was announced recently by Velsicol Corp., Chicago. George Weldon and Dr. Donald G. Denning, West Coast sales director and field entomologist, respectively, are making their headquarters at the new office. Warehouse facilities and chlordane stocks are being maintained at Los Angeles and San Francisco on a year 'round basis. The telephone number of the Berkeley office is Thornwall 3-5652.



A recent window featuring chemical specialties made by Click Chemical Co., Mount Vernon, N. Y. at Lewis & Conger, New York housewares store.

NOW... Longer Shelf Life For White Mineral Oil

Sonneborn Chemists have discovered that adding Vitamin E (Tocopherol) to mineral oil will make the oil much more stable — safeguarding it against the development of unpleasant taste or odor. This, of course, means longer shelf life for Sonneborn's new fortified mineral oil.

Yes, U.S.P. approves. A new amendment to the U.S.P. standards for liquid petrolatum authorizes the use of Vitamin-E-fortified mineral oil.

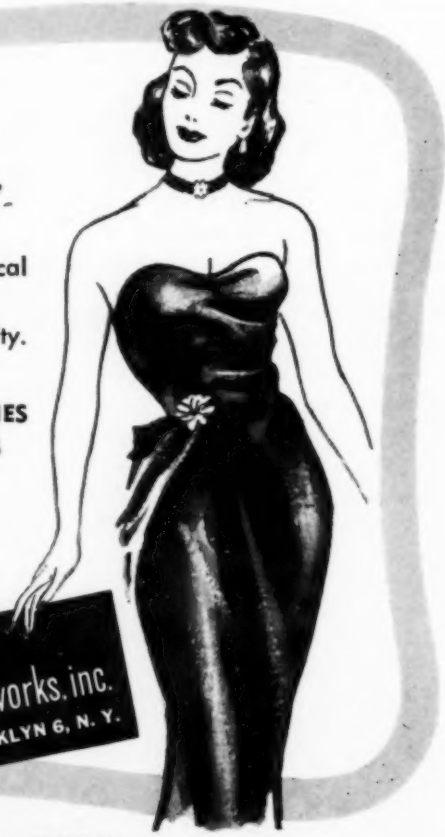
White Oil, Petrolatum, and Sulfonate Division, L. Sonneborn Sons, Inc., 300 Fourth Avenue, New York 10, N. Y.

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SANITARY SUPPLIES MANUFACTURERS FOR DISTRIBUTORS — JOBBERS — WHOLESALERS

G.S.A. to Test Wax Only

The plant of the General Services Administration, Washington, D. C., is not to be used for the regular production of floor wax or other supplies for use by Federal Government Agencies, a representative of G.S.A. told H. W. Hamilton, secretary of the Chemical Specialties Manufacturers Association recently. Earlier in a recent issue of the *G.S.A. News*, the floor wax manufacturing operations of the Administration were described. The article (reported on page 153 in this issue) told how the G.S.A. plant turns out 30,000 gallons of wax per year. When the article was published, H. W. Hamilton protested to the General Services Administration against the entry of a Government agency into wax manufacturing. Officials assured him that the plant has been used to make test wax emulsion formulations which are applied to floors in Federal buildings in Washington. This is the purpose of the G.S.A. plant, the equipment of which will be used only for testing, G.S.A. representatives assured Mr. Hamilton. They pointed out that the Administration has no plans to enter the manufacturing field.

CSMA Meets Dec. 3-4

Individual group meetings of the five divisions of the association at the opening and closing sessions will be among the highlights of the 38th annual meeting of the Chemical Specialties Manufacturers Association, to be held at the Mayflower Hotel, Washington, D. C., Dec. 3-4. The board of governors and general committees are scheduled to meet Sunday, Dec. 2, with registration starting in the Association suite at 1 p.m. on Sunday. The meeting formally opens on Monday. There is to be a group luncheon in the Williamsburg Room, Monday, followed by a short business meeting at which time officers and board members are to be elected for 1952. A general session will be held Monday afternoon. That evening there will be open house in rooms and suites of participating companies.

A general session will be held the morning of the second day of the meeting, followed by a group luncheon and meetings of the five divisions of the Association that afternoon. The banquet and entertainment conclude the meeting on Tuesday night.

C-P-P Strike Ends

The strike of 41 retail soap salesmen of Colgate - Palmolive - Peet Co., Jersey City, N. J., which tied up the entire production of the plant and threatened to spread to other plants of the company, ended Aug. 31. The terms of the settlement were not disclosed. The ten day strike was said to center on union security.

Flatow on Show Board

Wm. Flatow, Jr., assistant to the general manager of West Disinfecting Co., Long Island City, N. Y., has been named a member of an advisory board of Plant Maintenance Show, scheduled for Philadelphia's convention hall, Jan. 14 to 17, 1952.

Coming Meetings . . .

- American Association of Textile Chemists and Colorists (annual meeting) Hotel Statler, New York, Oct. 17-19.
- American Hospital Association, St. Louis, Sept. 17-20.
- American Institute of Laundering, Hotel Stevens, Chicago, Oct. 19-20-21.
- American Oil Chemists' Society (annual fall meeting) Edgewater Beach Hotel, Chicago, Oct. 8-10.
- American Public Health Association (annual meeting) San Francisco, Oct. 29-Nov. 2.
- Association of American Soap & Glycerine Producers, Inc., (annual meeting) Hotel Waldorf-Astoria, New York, Jan. 22-23, 1952.
- Chemical Specialties Manufacturers Assn., (annual meeting) Mayflower Hotel, Washington, D. C., Dec. 3 and 4.
- Drug, Chemical & Allied Trades Section, New York Board of Trade (annual meeting) Shawnee-on-Delaware, Pa., Sept. 20-22.
- Exposition of Chemical Industries (23rd) Grand Central Palace, New York, Nov. 26 to Dec. 1.
- National Hardware Show, Grand Central Palace, New York, Oct. 8-12.
- National Hotel Show, Grand Central Palace, New York, Nov. 5-9.
- National Institute of Rug Cleaners, Hotel Statler, Boston, Jan. 19-21, 1952.
- National Pest Control Association (annual convention) Hotel Statler, Boston, Oct. 29-30.
- National Sanitary Supply Association (annual meeting and trade show) Hotel Stevens, Chicago, Mar. 24-26, 1952.
- Packaging Machinery Manufacturers Institute (annual meeting) Mid Pines Club, Southern Pines, N. C., Oct. 13-17.
- Plant Maintenance Show, Convention Hall, Philadelphia, Jan. 14-17, 1952.

Insecticides ACS Topic

Chemical developments relating to insecticides and synthetic detergents were among the subjects covered in papers presented at the two-week World Chemical Conclave held in New York and Washington, D. C., Sept. 3 through 15. In addition to the diamond jubilee meeting of the American Chemical Society and the 16th conference of the International Union of Pure and Applied Chemistry which took place during the week beginning Sept. 3, the Twelfth International Congress of Pure and Applied Chemistry met to hear 971 papers beginning Sept. 10.

Technical sessions of the A.C.S. jubilee, the meeting week of which was designated as "National Chemistry Week" heard symposia on such scientific and technical developments as the current status of pesticides.

Lions Elect Nyhan

Vincent Nyhan, president of Arthur Beck Co., Chicago manufacturers of chemical specialties, has been elected president of the Chicago Central Lions Club.

Book Reviews

(*From Page* 102)

the Sharples process, miscellaneous other processes, plus the high pressure fat splitting process. Where the various techniques for an operation are presented, its basic principles are outlined and where possible a comparison made with the established process, including the aspects of economics.

Diagrams and other illustrations of fractionation and soapmaking equipment, distillation plants, soap plants, and other related units are included with suitable text matter.

Kodak Cleaning

(*From Page* 129)

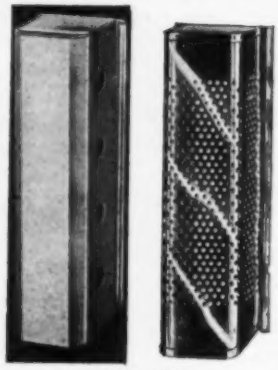
sure further that a minimum of dust is carried into the department these employes are literally vacuum cleaned as they pass through the doorway into the working areas. This applies to every person entering these areas for any purpose. These employes have

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their own cafeteria, operated under the same dust-free conditions.

Where inflammable materials are worked with, employes must wear protective clothing, and again, special techniques must be in force for all cleaning and maintenance operations.

In all departments very great precautions are taken against contamination. All materials are tested before being admitted to the area.

There is a well equipped laboratory where the above-mentioned items, as well as all cleaning materials, and all tools and equipment that must be used in these departments, are tested. Not until the product has been passed by the laboratory is it allowed into these areas.

Even the air at Kodak is watched closely. Throughout the plants there is air conditioning, in many departments controlling temperature, humidity and dust. All this explains why all possible cleaning is done by suction, or vacuum cleaning.

And still the job is not completed. Kodak has its own laundry, where special processes assure that all clothing and cleaning rags will be finished as lint-free as possible. Many plant workers wear white smocks with caps.

Kodak Park is a small city within a large one and so has outdoor cleaning problems, also. As this is the plant where one of the main activities is the making and coating of sensitized products even the air surrounding the plant must be kept as free of dust as possible. Streets and walks must be spotless so that dirt will not be carried into the plant.

Streets are cleaned with sweepers and a good synthetic wetting agent. In winter sand and salt are used on icy spots. This sand is tested for density to make certain that it is of a weight that will not blow around as dust or dirt. Lawn sweepers take care of leaves and other debris. Hand-propelled sweepers are used for warehouse areas. There are wide mats set into floors or pavements at outer doorways so that dirt is not tracked in on shoes.

It is now easily understood why the cleaning operations of such a plant can use the help of an Industrial Engineer. As one executive explained: "This has become so large a job that it requires an engineering approach."

Lindane

(*From Page* 137)

tive wireworm control. Smaller amounts such as used in seed treatment are for the protection of newly established crops and last sufficiently long for plantings to become established without damage. It can also be used in planting water treatment as another example of the types of applications that have been developed for the protection of plants from soil infesting insects.

Another wide range of insects controlled by lindane are those infesting the household. This represents another use possibility which has been most efficient and satisfactory. Among the household insects which lindane will control, and for which it is continually used, are ants, bedbugs, clothes moths, gnats, flies, mosquitoes, roaches, silverfish and spiders, including Black Widow spider and various other species. It can be applied for household pest control by various vaporizing or atomizing equipment as well as dusts and conventional sprays. A new and recent method developed for control of insects is by vaporization. With this technique the technical lindane is heated to 110° C. in a vaporizing apparatus which liberates about one gram of lindane per each 15,000 cubic feet of air per day. The vaporizing method is effective for control of flies, mosquitoes and various other insects. In addition, lindane is also adaptable to formulation in aerosol bombs, which is another example of its versatility and range of possible uses.

In addition to the many uses outlined above, several miscellaneous applications of lindane in various formulations include products for control of termites, powder post beetles, crab lice, human lice and various stored food or granary pests. These comprise more or less special types of control and to some extent special formulation and need not be completely described here. Because of its low toxicity and excellent insect control factors, lindane has a most excellent future as an insecticide for military uses. In general usage, lindane has been found to be compatible in all formulations with the various other insecticidal materials in use at present including DDT, and others, as well as fungicides such as coppers, the carbamates and sulfur. Many excellent combination formulations of lindane are being produced for agricultural work both in the plant and animal use fields.

Conclusion

In summary of the story of the modern and versatile insecticide lindane, the foregoing descriptions and uses of its toxicology, chemical nature, adaptability to formulation and wide range of insects controlled speak well for this insecticide. To date, within the scope of available research information, there has been no undesirable residual deposit or poison residue recovered from treated fruits or vegetables where proper formulations and amounts of lindane have been used with applications correctly timed. Likewise, there is no known record of poisoning to man or animals from applying the insecticide to food, or eating food treated with the insecticide.

Carnauba Tests

(*From Page* 139)

chloric acid in order to extract the hydrocarbons. When no hydrocarbon was found, the carnauba was deemed to be free of hydrocarbon adulteration.

It is possible that a quantitative extension of this method might be worked out by means of turbidimetric examination of the carnauba solution; however, no work has been done on this to date.

Comments are invited from interested parties on the method described above, and any further suggestions as to how this problem may be approached will be given serious consideration in the continuing research of my company.

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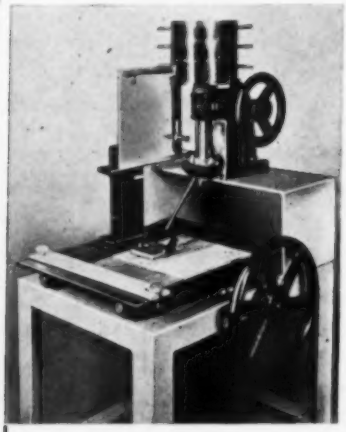
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Bruce in New BE&PQ Post

The appointment of W. G. Bruce as director of the southeastern region of the Bureau of Entomology and Plant Quarantine, with headquarters in Gulfport, Miss., was announced recently by the U. S. Department of Agriculture, Washington, D. C. He is directing the bureau's regulatory, control and administrative functions in Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina and Tennessee.

New Grease Absorbent

A new lighter oil and grease absorbent will be introduced at the 39th annual National Safety Congress and Exposition in Chicago, Oct. 8 to 12, it was announced recently by Speedi-Dri Corp., Philadelphia. The new product, "Super-Sol-Speedi-Dri", is to be exhibited by Waverly Petroleum Products Co. in booths 122 and 123 in the Stevens Hotel. Waverly distributes "Speedi-Dri" in parts of the U. S., except New York, New England, Eastern Pennsylvania and southern New Jersey. Edward W. Coogan will head the Waverly staff at the Safety Congress.

New Tablet Quaternary

The introduction of a new quaternary ammonium germicide in tablet form was announced recently by Chemical Research Products Co., Norfolk, Va. Marketed under the trade name, "Sanitabs," the tablet is available in two sizes. Containing 50 per cent active material, the tablets are claimed to be readily soluble in water. They are being distributed through sanitary supply jobbers.

Rules on Chlordane Case

The Colorado Supreme Court recently affirmed with modifications a $1,600,000 judgment in favor of Velsicol Corp. of Chicago against Julius Hyman & Co., Denver. The decision modified the lower court's judgment to permit allowances for Federal income taxes paid by Julius Hyman & Co. The court said this would reduce the amount the Hyman concern must pay Velsicol to $1,238,000.

Glycoles in Insecticides

A tenfold increase in the toxicitys of nicotine and nicotine sulfate has been accomplished by the addition of low concentrations of polyethylene glycol fatty acid esters, according to a recent report of the Connecticut Agricultural Experiment Station. The increase in toxicity is reflected both in higher percentage of kill and faster kill. These conclusions are reached in a study covering two years work at the Station and published in a bulletin: "The Effect of Some Polyethylene Glycol Derivatives on the Toxicity of Nicotine to Insects." The report was prepared by Neely Turner, D. H. Saunders and J. J. Williams. The derivatives giving a tenfold increase in toxicity are: polyethylene glycol 1000 mono oleate, polyethylene glycol 400 mono laurate and polyethylene glycol 600 mono laurate. The synergism of these non-ionic surface active agents with nicotine appears to be the result of improved penetration of the insect cuticle. The polyethylene glycol esters are manufactured by Glyco Products Co., Brooklyn.

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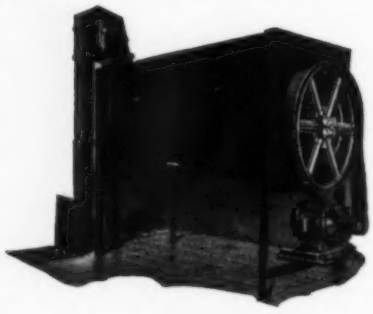
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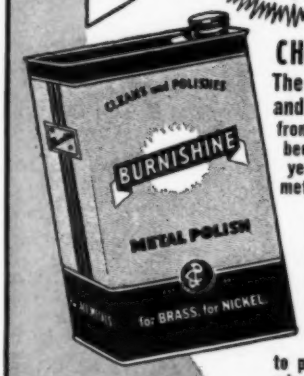
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Recommended for stainless steel, aluminum, monel and such metals that are difficult to polish. Removes rust from Chromium and nickel plated metals. Polishes brass, copper, bronze quickly and easily.

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Dr. T. E. Snyder, Termite Expert, Retires

DR. THOMAS E. SNYDER, internationally known authority on termites and their control, retired recently after 42 years of service in the U. S. Department of Agriculture. He entered Federal service when he joined the Bureau of Entomology in 1909. Since then he has devoted his efforts to the study of termites and their control. His recommendations for preventing or reducing damage to wood and wood structures by termites, about which little was known when he entered the Bureau in 1909, include the application of creosote to wood, particularly when in intimate contact with the soil. He also found that termites usually enter the home and buildings through structural faults that can be corrected most easily during the construction period. Accordingly, he instigated the establishment of uniform standard city building code specifications to prevent termites from entering buildings. These specifications are used in many parts of the U. S. today.

Because termites cause their greatest damage in tropical parts of the world, Dr. Snyder conducted many of his experiments in termite control in Panama, the West Indies, Hawaii and Louisiana. Extensive tests with various wood impregnating chemicals in these areas resulted in the modern use of sodium arsenate, pentachlorophenol, and more recently, DDT, in the protection of homes and other wooden structures from damage by termites.

He will continue his studies on termites at U. S. National Museum.

New Petrolite Wax

A new synthetic wax ester petroleum derivative was announced recently by Petrolite Corp., Ltd., Wax Division, New York. "Wax Ester No. 60," as the new wax is designated, may find possible use in the manufacture of soaps and wetting agents and common solvents for waxes and chemical specialties. It is now available for shipment and samples and further information are available upon request.

Typical chemical and physical properties are as follows:

Solidification Point, °F.	130
Penetration, (100/5/77 °F.)	101
Acid Value	74
Saponification Value	159
Hydroxyl Value	14.4
Color, NPA	8

Solubility:
25% Wax Ester No. 60, 75% Solvent

Mineral Spirits	Soluble hot
Isopropyl Alcohol	Soluble hot
Water	Insoluble
Caustic Water	Soluble hot

New Kel-Cide Folder

A folder covering "Kel-Cide" sanitizer - cleaner - deodorant was announced recently by Kel-Cide Products, New York. The new folder covers the chemical and physical characteristics of the product and lists possible places of application with recommended concentrations. These include homes, industrial plants and in such special fields as kennels, stables, etc.



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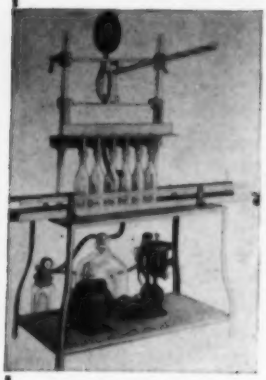
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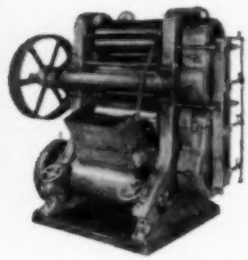
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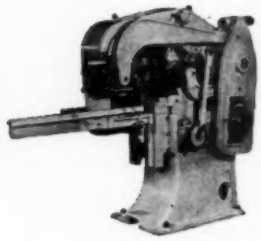
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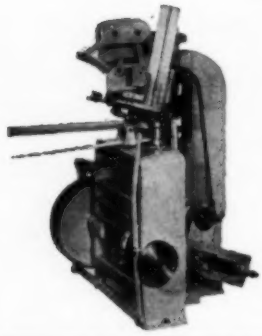
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Industrial Chemist: 7 years experience research and development of sanitary chemicals, detergents, waxes, automotive compounds, chemical specialties, paints and varnishes, synthetic resin formulation. New York area. Address Box 411, c/o *Soap*.

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Sales Agents: Leading eastern manufacturer sanitary chemicals considering selling through local sales agents who call on janitor supply and paper jobbers. Excellent money-making opportunity for local sales agents with following. Exclusive full line. Complete mutual exchange and investigation of references. If interested, write for further details on business letterhead. Manufacturer, Box 412, c/o *Soap*.

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For Sale: Proctor & Schwartz 6 fan automatic soap chip dryer, 2 roll chilling unit, large roll 48″ dia. 5000 lb. Houchin vertical jacketed crutcher motor driven. Empire State foot presses. Soap frames. Allbright-Nell 4′x9′ chilling rolls. Lehmann 4-roll W.C. 12″x36″ steel mill. Houchin 8½″x16″ 3-roll and 18″x30″ 4-roll granite stone mills. Kettles and tanks, iron, copper, aluminum, and stainless. Dryers vac. & atmos. Jones automatic soap presses. Slabbers and cutting tables, hand & power. Crutchers. Six knife chipper.

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NPCA Meeting Oct. 29-31

New developments in insect and rodent control are among the topics to be discussed at the 19th annual meeting of the National Pest Control Assn. at the Hotel Statler, Boston, Oct. 29-31. Government regulations affecting the industry will be reviewed and brought up to date at the meeting by William O. Buettner, N.P.C.A. secretary. Election of officers will take place on the final day of the meeting.

A business session, with reports of officers, and a discusison of public relations is the opening feature of the meeting. The afternoon of the first day there will be concurrent sessions, one dealing with termite problems, the other with rodent control. Fly control will be discussed at two sessions on the second day of the meeting. One portion of which will deal with chemical control, the other with a summary of control methods by E. F. Knipling of the U. S. Department of Agriculture.

A management clinic is scheduled for the second evening, with a presentation on sales training and another on a new manual for servicemen. Also slated to be covered is safety, with emphasis on toxicity of insecticides and rodenticides. Irritation caused by insects will be discussed by Dr. Ralph Heale, technical director of NPCA.

CSMA Board Meets

Chemical Specialties Manufacturers Association is holding its fall Board of Governors' meeting at The Cavalier, Virginia Beach, Va. September 23-25. In addition to members of the board, chairman of standing association committees and members of the executive committee are also attending the meeting. Plans for the 40th annual meeting of CSMA to be held in Washington in December, 1953, are being discussed. First meeting of the association was held in Washington in 1914.

New Lowell Catalog

Issuance of a new 32-page catalog illustrating and describing its entire line of "Certified Quality" sprayers and dusters was announced recently by Lowell Manufacturing Co., Chicago.

Disinfectants for TB

(*From Page* 134)

alcohol but it does not matter whether the water is on the surface, in or on the bacteria or in the alcohol.

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(*To Be Continued*)

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Every effort is made to keep this index free of errors, but no responsibility is assumed for any omissions.

TALE ENDS

FOR the first six months of 1951, 611,000,000 lbs. of synthetic detergents were manufactured in the U. S. for household uses which is ten times the rate of output just five years ago in 1946. And for 1952, according to NPA Chemical Division figures, growing out of an advisory committee meeting last month on detergents, the demand for synthetics will be even higher by about 15 per cent. How our baby has grown! And when this growth was predicted ten years ago, a lot of wise guys just tapped their skulls and winked.

* * *

P & G have broken ground for their new plant at Caracas, Venezuela. Lever has started the manufacture of Lux in the same place. And, Las Llaves, the largest soap company in Venezuela has closed down for the first time in sixty years. The object of this latter is a complete remodeling and modernizing of their plant which when completed will add a full line of toilet soaps and detergents to their present laundry soap brands. Boy, oh boy,—the soap situation in South America gets hotter with each passing month! Ain't competition wonderful?

* * *

Aerosol insecticide bombs,—1,400,000 of them, to be exact,—were called for on bids by the Department of Defense via the Navy Purchasing branch. Then, the call for bids was cancelled,—or rather, it was indefinitely postponed. When, where and how the bids will be reopened will be duly reported here when, where and how such happens, if it does.

* * *

Soap is being made at the Kessler Air Force Base in Mississippi from waste grease by "an old Mormon formula," according to a news report, and will save the USAF $15,000 per annum. Strangely enough, says the news, the main ingredient of "this old family recipe" is grease. How unique! And this magic formula has been handed down to a Kessler lieutenant from his wife's great grandmother who lived in Utah. That's how the lucky, lucky USAF got it. When they have saved their first $15,000, we have asked the lieutenant to wire us collect.

* * *

From Phil Munn of Phil Munn & Co., down under in Adelaide, South Australia, we pass on a word of thanks to some of our advertisers. Says Phil in a recent letter: "Some time ago I wrote to a number of advertisers in your journal seeking technical information, and the response was remarkable. As I cannot write to each one separately, could you say 'thank you' to them for me?" Accordingly, we say: "Thank you gentlemen" in behalf of Phil Munn.

* * *

Faellesforeningen for Danmarks Brugsforeninger, otherwise known as the FDB, is short for The Danish Cooperative Wholesale Society of Copenhagen, the largest sales organization in Denmark with 2,000 consumer cooperatives all over the country and 440,000 members. Each member usually represents a family which means that about one-third of the Danish population buys its goods from FDB. They have their own plants for making lots of things including soaps and pesticides. And wishing obviously to get the right dope, they have just entered a subscription to this rag. So, greetings to all you FDB blokes in Copenhagen!

* * *

Ninety per cent of food stores now carry shampoo! That was the startling statement of D. Whiting, Armour's soap products advertising manager which accompanied the launching last month of Dial Deodorant Shampoo, companion product to Armour's Dial Soap. The new shampoo was introduced with full-page color advertising in Chicago and Milwaukee. And what is more, Mr. Whiting said: ". . . shampoo is one of the two highest, if not the highest selling 'drug item' the food stores have."

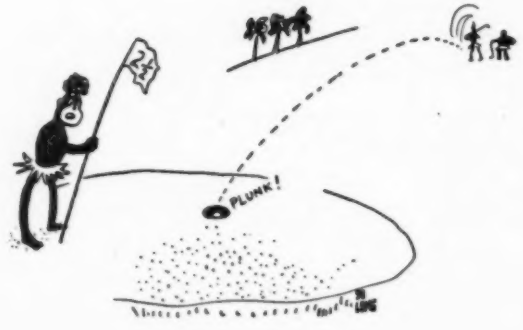
* * *

Soap prices were reduced last month by most leading soapers. Came the day when the last of the larger soapers announced his price cut giving as the reason "a reduction in raw material costs." On that very day, the price of tallow jumped 1⅛c per pound which is really quite a leap for tallow. All of which goes to show that fate can make a sucker out of anybody if she takes it in her head to do so.

* * *

The National Soap Box Derby was held in Akron, Ohio, recently. Now, gentle reader, this "soap box" stuff is strictly a misnomer. The alleged derby is a race run for kids who coast downhill in home-made push wagons while a million other yelling maniacs, ages 5 to 15, line the course. None of the wooden boxes which comprise the bodies of these vehicles ever carried a piece of soap to market. In fact, wooden soap boxes today are mostly collectors' items.

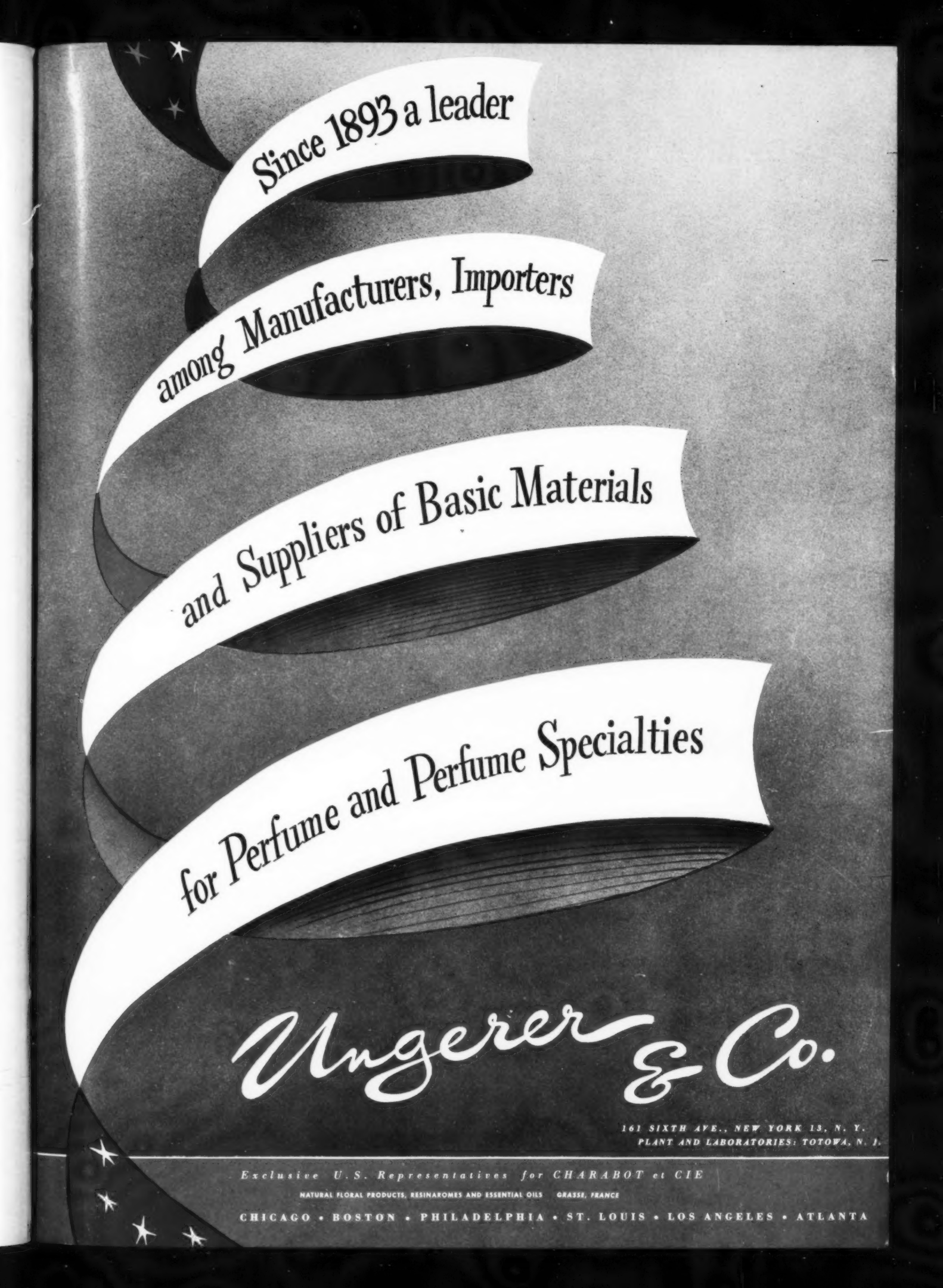
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